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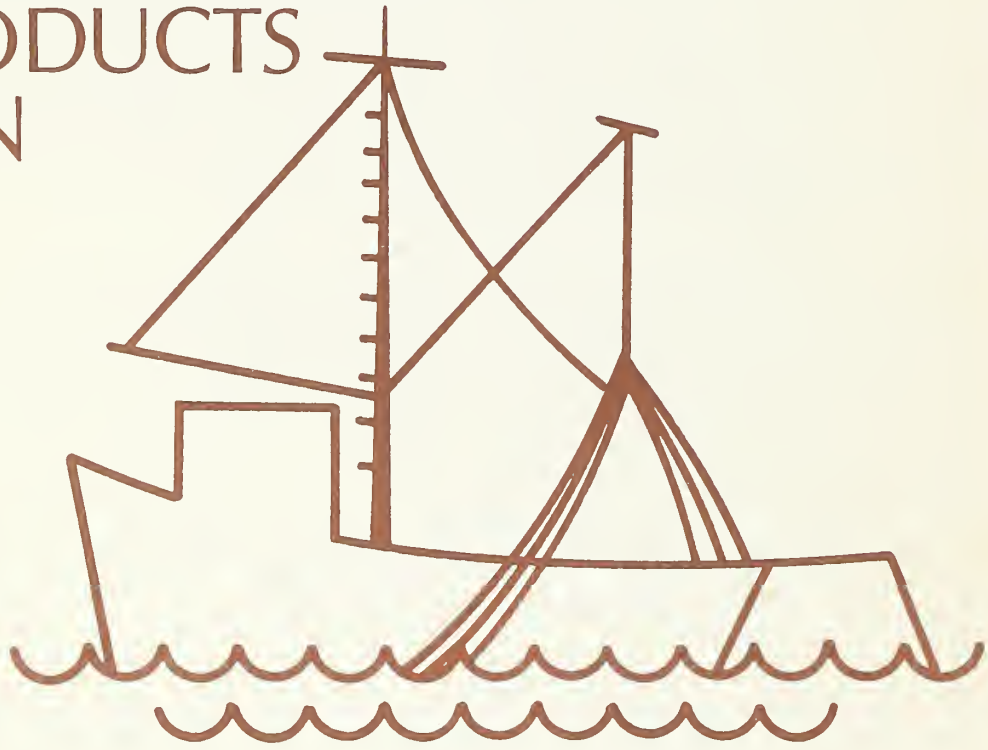
EXPORT OPPORTUNITIES FOR SELECTED VIETNAM FISH PRODUCTS IN JAPAN



International Development Center • Economic Research Service
U.S. Department of Agriculture cooperating with U.S. Agency for International Development
and the Vietnam Ministry of Agriculture and Land Development

 Export Opportunities for Selected Vietnam Fish Products In Japan

ABSTRACT

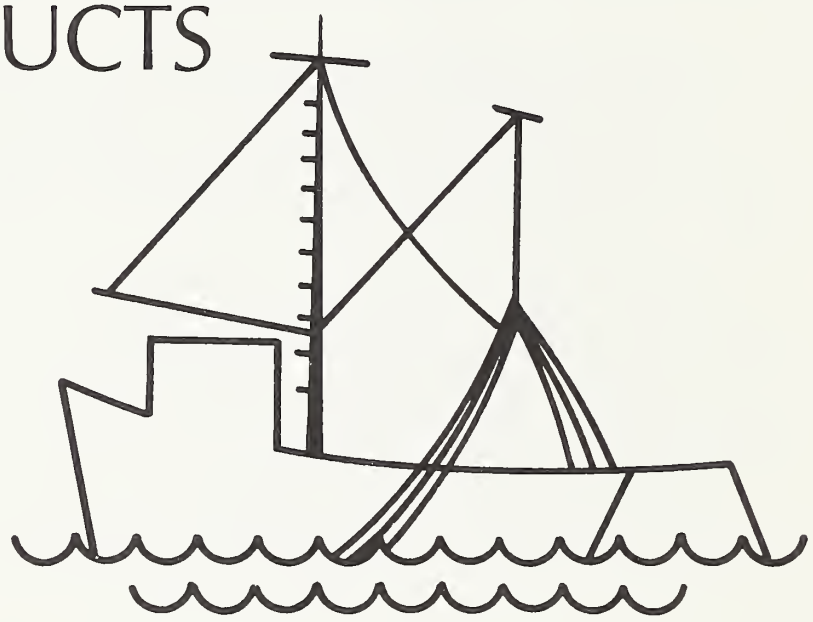
Japan's fish imports increased from 273,000 metric tons (M.T.) in 1965 to a half million in 1972, and are projected at 1.6 million M.T. by 1980. The domestic fish industry has historically been protected by tariffs and quotas. These have been modified recently to assure adequate supplies at reasonable prices for the population. Fish imports were valued at nearly $630 million in 1972. Imports of 19 species and products of interest to Vietnam exceeded 164,000 M.T., worth $369 million.

Shrimp, prawn and lobster products from Vietnam are of most interest to Japanese importers followed closely by cuttlefish and squid. Vietnam may profitably tap the market for these species if it can produce additional quantities meeting Japanese quality specifications at competitive prices while maintaining resource stocks. Tuna, mackerel, jellyfish, and crabs are also in strong demand, but will require additional supply-cost analyses before export potential can be evaluated. The same is true for eel fry, aquarium fish, red snapper, sea bream, and several other species best for processing purposes.

One factor characterizes Japan's business climate: close economic cooperation between the private sector and government, particularly in international trade. Japanese traders prefer joint capital ventures and other forms of tied contracts for imports. Terms and conditions in these contracts must be evaluated carefully for mutual benefits.

Key Words: South Vietnam, Japan, fish, developing country, exports, trade, technical assistance.

EXPORT OPPORTUNITIES FOR SELECTED VIETNAM FISH PRODUCTS IN JAPAN



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FOREWORD

Saigon, Republic of Vietnam
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The Republic of Vietnam and its people are working diligently to expand the economy of the country for the benefit of all its citizens following many years of paralyzing disruptions. The Ministry of Agriculture and Land Development has devoted time and effort to the field of fisheries since the production of food and fiber has historically been one of the country's most important economic sectors. Vietnam's fishery industry plays a leading role in that sector.

The Directorate of Fisheries has launched a comprehensive program of research and technical assistance to help the fishery industry expand its production and marketing capabilities. The goal is to provide Vietnam's growing population with adequate supplies of high quality fish and fish products, as well as to penetrate export markets abroad with Vietnam products, thereby earning foreign exchange and helping the country's balance of trade.

This study is one of several completed in the area of export demand potential by combined Vietnamese-United States of America teams. The work has been jointly sponsored and funded by the Ministry of Agriculture and Land Development of the Republic of Vietnam and the United States Agency for International Development. Both groups are dedicated to helping the Vietnam fishery industry find good export markets, expand production profitably, and provide new employment opportunities for Vietnamese. I commend the research participants for their dedicated efforts, and am pleased that the Directorate of Fisheries of the Ministry of Agriculture and Land Development has played an important role in this joint effort.

Tran Van Tri
Director
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ACKNOWLEDGEMENTS

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Ambassador Do Vang Ly and his staff of the Vietnam Embassy were most helpful while the team conducted field work in Japan. Mr. Tran Van Tri, Vietnam Directorate of Fisheries, and Mr. Le Dung Dan, Vietnam Export Development Center, and their staffs assisted the team in Vietnam. Thanks goes to all of these individuals. A number of organizations in Japan provided information and assistance, without which the study could not have been completed. A special word of thanks to John Lloyd III, First Secretary, Embassy of the United States of America, Tokyo; Clinton E. Atkinson, formerly Regional Fishery Attache, Tokyo; Lorry M. Nakatsu, present Regional Fishery Attache; and Yoshio Nasaka, Economic Assistant at the U.S. Embassy.

The cooperation and help given by a number of agencies of the Japanese government were greatly appreciated. Especially helpful were: the Ministry of Agriculture and Forestry, Fishery Agency, Mr. Iwao Arakatsu, Director General; the Japan External Trade Organization, Mr. Motonobu Inagaki, Director; and the Ministry of International Trade and Industry, Mr. Tadao Kimura, Deputy Director. Mr. Kazuo Okazaki, Tokyo Metropolitan Central Wholesale Market, was also most helpful to the team. Thanks also to the many members of the Japan Marine Products Importers Association who granted interviews and provided data.

The counsel and help of many colleagues were greatly appreciated by the authors on many occasions. A special word of thanks to S. Blair Hutchison, Keith Brouillard, William A. Faught, William S. Hoofnagle, David P. Winkelmann, and Edmund H. Farstad. Mr. Yoshio Hida arranged for interpreter and translation services in Japan, while Michi Nakamura handled office management and secretary services. The typing of many drafts and the final manuscript were ably handled by Judy Glass, Wanda Carney, Debra Mason, and Christine Bryant. Data analysis assistance was provided by Lula W. White. All of these people deserve our heartfelt thanks.

1/ The work was completed under USAID PIO/T numbers 730-170-2-(21)-20031 and 730-170-2-(31)-30027.

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SUMMARY

Japan's imports of fish and fish products continue to grow rapidly as its population and per capita income increase. Total Japanese marine imports increased from 273,000 metric tons (M.T.) in 1965 to nearly a half million M.T. in 1972. The value of these imports increased from $104 million in 1965 to nearly $630 million in 1972. Imports are expected to expand even more as Japanese domestic demand grows in relation to the domestic fish catch. The Japanese fish industry is highly protected by government import quotas and tariffs, but these have been modified from time to time to assure that the Japanese public obtains adequate supplies of popular fish products at reasonable prices.

A four-man Vietnamese-American team visited Japan in February 1973 under U.S. Agency for International Development sponsorship to evaluate the possibility of Vietnam's exporting 33 fish species and five fish products to Japan. The Vietnamese-American team projected statistics for Japan's fish industry to 1980 and estimated that, by then, imports of marine products will exceed exports. Domestic disappearance of edible fish and shellfish in Japan will be approximately 8.3 million M.T. on a live weight basis by 1980, and exports will stabilize around a million M.T. Japan's domestic catch will be approximately 7.7 million M.T., meaning imports will increase to 1.6 million M.T.

Only 19 of the 38 fish species and products listed by the Vietnam Directorate of Fisheries seem to have viable export potential in Japan at this time. How Vietnam may participate in Japan's growing import demand for these products, and to what degree, will depend upon Vietnam's supply capability, including seasonality of production, the cost and pricing structure, and direct contract negotiations by Vietnamese export missions with appropriate Japanese officials.

Recent Japanese import statistics for 16 of the 19 species and groups which seem to have good export potential for Vietnam are shown in Table 1. These imports totaled nearly 165,000 M.T. in 1972, for a value of $369 million. These data relate primarily to fresh, chilled, or frozen fish, and understate imports by the amount of dried, salted, and other processed forms.

Shrimp, prawn, and lobster are of most interest to Japanese officials and importers. Total import quantity and value far exceed the other species and groups (Table 1). Some concern was expressed that Japan was oversupplied with shrimp and prawn in 1972, but all importers interviewed felt this was a temporary situation, and that export prospects for Vietnam were very good for the species in the near future.

Cuttlefish and squid also generate much interest among Japanese officials and importers. The two species appear to have high potential for Vietnam if they can be processed to meet Japanese specifications. Apparently Japanese demand for these species will continue to grow, and prices will continue their upward trend as Japan's domestic catch decreases.

Fry for fish culture, including eel fry, were in third place relative to total value of Japanese imports of the 16 species of special interest to Vietnam. Eel fry represent only a part of the value for fry, but their cultivation is a highly specialized activity which the Vietnamese industry should study carefully.

Table 1.--Japan fish imports: Aggregate value, tonnage, and average unit prices, 1972[1/]

Species or group	Quantity	Value	Average unit price
	Metric tons	Million dollars	Dollars/M.T.
Shrimp, prawn, and lobster	88,120	296.8	3,368
Cuttlefish and squid	27,844	21.3	764
Fry for fish culture[2/]	214	9.2	43,051
Yellowfin tuna	8,430	8.4	1,000
Spanish mackerel	10,326	7.3	705
Jellyfish	5,331	7.1	1,336
Hard clams	15,372	6.9	448
Crabs	2,519	3.4	1,344
Red snapper and sea bream	3,787	3.2	835
Aquarium fish	50	2.4	48,640
Bluefin tuna	1,001	1.4	1,431
Other fish preparations[3/]	495	1.1	2,222
Hairtail	1,251	.5	365
Total	164,740	369.0	

1/ The data are for species imported in fresh, chilled, or frozen form, except for jellyfish, fry, aquarium fish, and other fish preparations.
2/ Primarily eel fry.
3/ Includes fish sauce, fish paste, and fish cake, among others.

Japanese imports of yellowfin and bluefin tuna amounted to more than 9,400 M.T. in 1972. The market is firm and traders expect imports to increase. Vietnam might profitably tap this market if it can produce a product meeting Japanese quality specifications at competitive prices. This may become less of a problem in the future as environmental conditions present more difficulties for Japan's domestic fishing industry. Spanish mackerel falls into a similar category. Imports are increasing, although not as rapidly as for tuna fish.

Japanese importers felt that dried and salted jellyfish provided a favorable export opportunity for Vietnam. They reiterated Japan's need for an alternative source to the People's Republic of China, and were willing to provide short-term technical assistance to Vietnamese processing firms to help them meet Japanese quality specifications. Jellyfish exports seem as favorable as cuttlefish and squid, and should be thoroughly analyzed.

Hard clams will be an export possibility only if Vietnam can cultivate a Japanese institutional market for the processed product since freight cost and

distance probably preclude competing with North and South Korea and China for the fresh market. A similar situation exists for crabs. The blue, brackish water crab, native to Vietnam, is not acceptable to Japanese homemakers in fresh or frozen form because of its color, but might be marketed to the institutional trade such as restaurants and hotels. The potential market for mangrove crab should also be investigated.

Aquarium fish are a highly specialized item which may have a profitable, although limited, market in Japan. Prices and total value are high, but volume is low and very special handling by air freight is required. Red snapper, sea bream, hairtail, and fish sauce, paste, and cake will require special merchandising efforts if Vietnam desires to export them to Japan. Cost and return studies must be analyzed carefully for each product since they may not be profitable alternatives in Japan's highly competitive market for these commodities.

JAPAN'S TRADING CLIMATE

One overriding factor characterizes Japan's business climate: close economic cooperation between the private sector and the state to realize national economic policy. The private sector and the government consider themselves partners in the country's development to the point that business policy is identical with national economic policy, yet few details about specific policies are published. Firms not directly involved in the formulation of a particular policy, however, fall into line with loyalty and respect.

Nowhere is this more evident than in international trade. A complex set of tariff regulations and global, regional, and trading firm import quotas by product species exists. Assigning, dividing, and trading quotas and quota bases are a normal, accepted way of doing business in Japan. The domestic fish industry of Japan is rigidly protected. The Vietnam industry must face the real fact that one does not sell fish products on an open market in Japan, no matter how good the quality of the product or how competitive its price. A Vietnamese exporting firm must first locate a Japanese trading company with an unfilled quota for the product. Then it must negotiate a contract with that firm and wait for the Japanese firm to obtain the necessary governmental authorizations before the business transactions can be completed.

Japanese firms prefer the joint capital venture method of contracting for imports. There are decided advantages for the Japanese importing firm, including (1) improving quality of products at the source, (2) assured supply control and importing flexibility, (3) cost reduction, foreign exchange management, and profit benefits for the home firm, and (4) reciprocity benefits. The exporting firm gains needed technical assistance, an assured market, and scarce capital, while surrendering its flexibility in choosing alternative markets.

Other forms of "tied contracts" are also negotiated by Japanese importing firms. Each has its advantages and disadvantages for the exporting firm in Vietnam. While it is usually necessary to negotiate some form of tied contract with Japanese traders if one wishes to export to Japan, terms are becoming more flexible with mounting world competition for scarce marine resources. The contract terms should be studied very carefully before negotiations are undertaken since both parties can and should share in the potential profits from the enterprise.

Japan dominates the Asian market for many species of marine products because of its size and the strength and organization of its traders. However, for some species, such as shrimp and prawn, world demand is so strong that prices and demand in New York and London may actually influence Tokyo or Singapore prices and trade activity. In fact, no Asian markets operate in isolation. There may be seasonality factors for a given species, or erratic changes in supply or demand factors which take precedence in a given market and influence prices in that market temporarily, but the markets are basically interrelated. These interrelationships will be studied in more detail in a later USDA/AID study, following analysis of Vietnam's supply capacity.

There are some species which have unique demand characteristics, however, and supplies are not free to flow among a number of Asian markets. Threadfin, for example, is a delicacy in Singapore among the Chinese population. Demand for the fish is practically nil in Japan, however. Conversely, blow fish is a special delicacy in Japan, but is not consumed by the Chinese population in Singapore. Other species, like red snapper and mangrove crab, may substitute for preferred species in the future if market educational and promotional efforts change buying habits.

EXPORT OPPORTUNITIES FOR SELECTED VIETNAM FISH PRODUCTS IN JAPAN [1/]

INTRODUCTION

A four-man Vietnamese-American team of fisheries experts and marketing economists spent about a month in Japan in January and February 1973 to interview Japanese government officials, trade association executives, and private traders to obtain current information about the Japanese economy and its trends, the market for fish and fish products, trends in demand and supply for those commodities, and trading patterns and methods. This study, sponsored by the United States Agency for International Development (USAID) was undertaken to assist Vietnam's fishing industry locate viable export markets for selected fish species. Of particular interest to the team was the growth pattern of Japan's fish imports and its composition in relation to Japan's domestic fish industry and its growth. Domestic demand changes in Japan were analyzed in depth, particularly for 33 fish species and five processed fish products thought to be available in Vietnam in commercial quantities.

DATA SOURCES

Secondary data published by various Japanese entities were obtained and analyzed. Interviews were held with officials of the Japan Ministry of Agriculture and Forestry, Fishery Agency; the Japan Ministry of International Trade and Industry (MITI); and the Japan External Trade Organization (JETRO). Much valuable information was obtained from these agencies as well as from the staff of the United States Asian Regional Fisheries Attache, American Embassy, Tokyo. A number of other Japanese government officials are interviewed, in addition to many trading company executives who control most of the fish imports into Japan.

JAPAN'S ECONOMY

Japan's economic recovery following the paralysis from World War II is a success story of many dimensions. Japan's gross national product increased from $24.6 billion in 1955 to $255.3 billion in 1971.[2/] Thus, Japan's economy was second only to the United States in the free world, as measured by GNP, in 1971. The nominal growth rate in Japan's economy was a very significant 16.4 percent per year between 1967 and 1971. The Japanese nominal and real rates of growth are shown in Table 2, as are some projections to 1985.

1/ Study conducted for the U.S. Agency for International Development Mission to Vietnam under PIO/T 730-170-2-(21)-20031 and 730-170-2-(31)-30027.

2/ From a Japan Economic Research Center report as quoted in: "Japan, Dynamic Force in the Industrial World," Union Bank of Switzerland, 1972, p. 3.

Table 2.--Growth of Japan's gross national product

Year	Gross national product-nominal	Growth rate 1/ nominal	Gross national product-real	Growth rate 1/ real
	Billion dollars	Percent	Billion dollars	Percent
1955	24.6	18.6	36.5	10.7
1960	45.0	13.0	56.5	9.2
1965	90.7	15.3	89.7	9.9
1970	204.8	17.4	161.4	12.1
1975 2/	425.3	15.7	260.9	10.1
1980 2/	861.8	15.2	418.3	9.9
1985 2/	1,704.4	14.6	670.7	9.9

1/ Average for the preceding 5-year period.
2/ Estimate.

Source: "Japan, Dynamic Force in the Industrial World," Union Bank of Switzerland, 1972, p. 3.

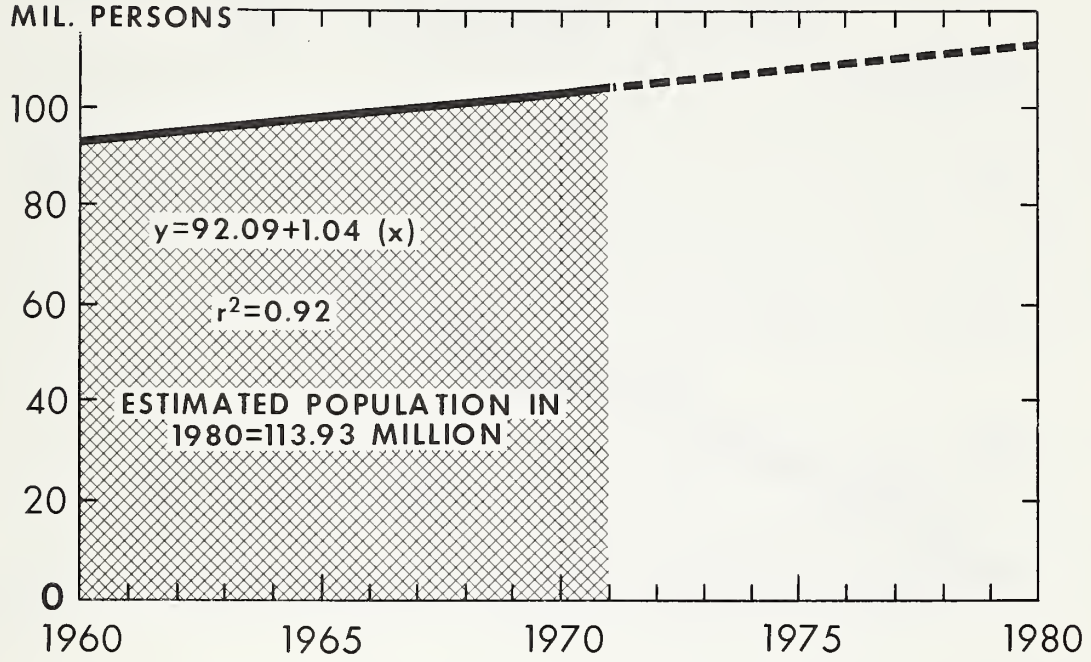
Per capita income of $2,380 in 1971 has been projected to increase to $13,600 by 1985 in one study.3/ If this optimistic projection should materialize, the Japanese economy will have achieved an unmatched triumph in the history of modern industrial nations. Japan would then rank at the head of all industrial nations.

Many economic strategists and politicians are studying Japan's economic growth in depth. A minority concensus seems to be that the kind of growth projected above cannot be achieved because: 1) Japan would have to expand its share of world foreign trade from the 7.2 percent in 1971 ($24 billion of the $333 billion world total) to 12 to 14 percent by 1985 (requiring Japanese exports of between $150 and $170 billion); 2) competition with other nations for the raw materials needed by Japan's growing industrial sector will increase; 3) fewer people in Japan's working population are being employed in the primary sector and more in the service or tertiary sector, an internal change common to rapidly growing industrial economies; and 4) competition for resources to satisfy growing domestic demands for housing, medical, educational, recreational, and other services by the population will necessitate weighing alternative uses of resources, with some adjustment problems.

Japan's population has been increasing at 1.04 percent per year since 1960 (Figure 1). Using this rate and the 105 million population reported in the 1971 population census would indicate that Japan's population in 1980 will be 113.93 million.

3/ "Japan, Dynamic Force in the Industrial World," op. cit.

FIGURE 1. -- POPULATION OF JAPAN, 1960-1971, PROJECTED TO 1980



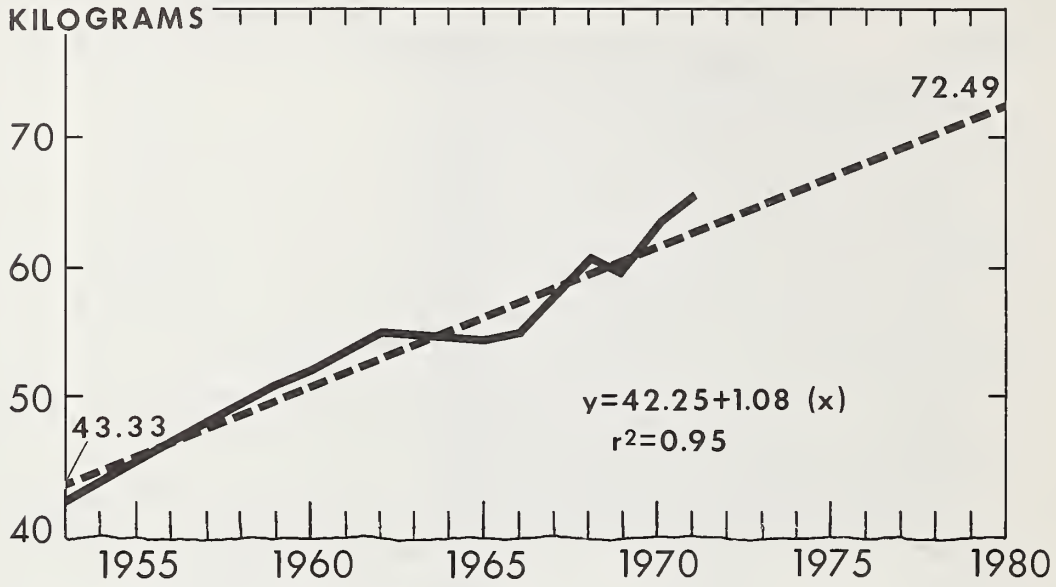
SOURCE: ERS PROJECTION BASED ON DATA FROM JAPAN AND UNITED NATIONS PUBLICATIONS

THE JAPANESE MARKET FOR FISH

Per capita consumption of all fish products continues to grow in Japan. This is largely a reflection of rapidly-growing per capita income and a long-time cultural preference for protein derived from marine products. While there is a trend toward increased consumption of animal products such as beef, particularly among the higher income groups, increasing per capita fish consumption continues, especially consumption of high-quality marine products such as prawn, abalone, and lobster.

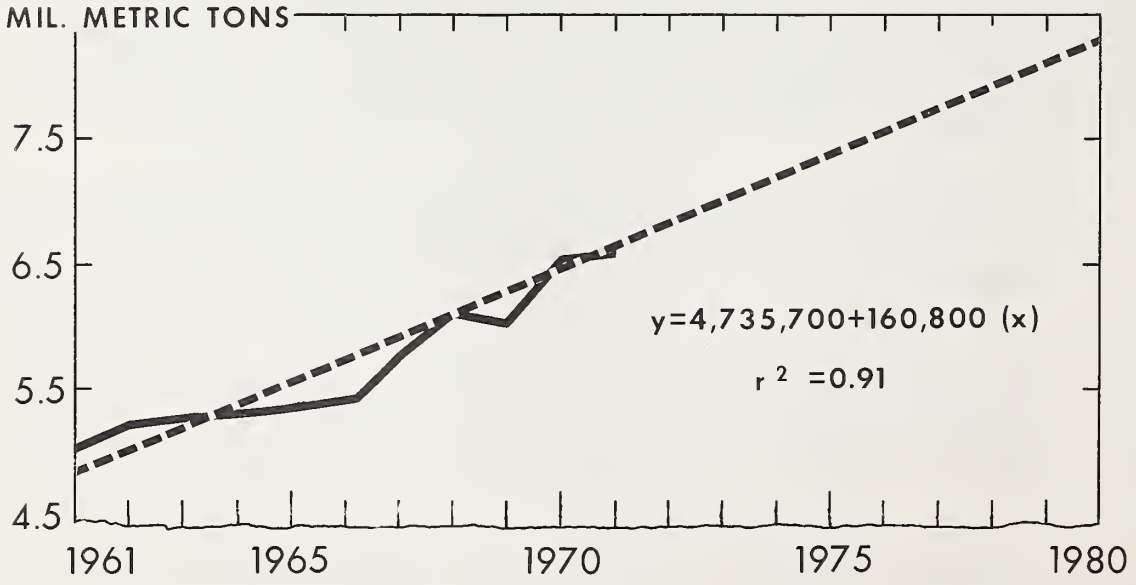
A linear regression was completed utilizing the actual per capita fish consumption on a live weight basis from 1953 to 1970 as the dependent variable and time as the independent variable. This data was then used to project consumption to 1980 (Figure 2). Per capita consumption, which was approximately 42 kilograms of fish and fish products in 1953, had increased to 63.4 kilograms by 1970, and is estimated to reach 72.49 kilograms by 1980. The linear projection assumes no changes in income or price elasticity of demand nor in tastes and preferences. Based on these assumptions, and on the population projection depicted in Figure 1, estimated total domestic demand will reach 8.26 million metric tons (M.T.) by 1980 (Figure 3).

FIGURE 2.--JAPAN: TREND IN ANNUAL PER CAPITA CONSUMPTION OF ALL FISH, LIVE WEIGHT BASIS, 1953-1971, PROJECTED TO 1980



SOURCE: ERS PROJECTION BASED ON DATA FROM JAPAN MINISTRY OF AGRICULTURE AND FORESTRY PUBLICATIONS

FIGURE 3.--JAPAN: CONSUMPTION OF ALL FISHERIES PRODUCTS, LIVE WEIGHT BASIS, 1961 TO 1971 AND PROJECTED TO 1980



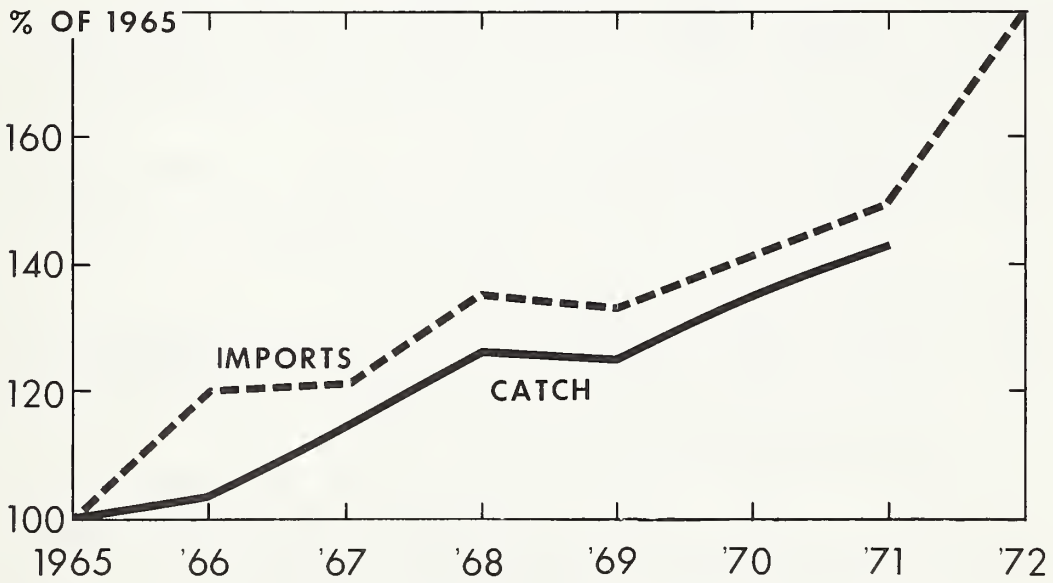
SOURCE: ERS PROJECTION BASED ON DATA IN FIGURES 1 AND 2

JAPAN'S FISHING INDUSTRY: PRODUCTION AND TRADE

The increased demand for marine products has been met by a rapidly expanding domestic fishing industry and a substantial increase in imports. The total domestic catch of all marine products, perennially among the highest in the world in both quantity and value, increased from 6.9 million M.T. in 1965 to 9.9 million M.T. in 1971, an increase of 43 percent in 7 years (Figure 4). Due to rising demand and trade liberalization, total marine imports on a product weight basis grew from 273,000 M.T. in 1965 to 408,000 M.T. in 1971, and to almost a half-million M.T. in 1972 (Figure 5). The value of these imports increased from $104 million in 1965 to $446 million in 1971, and to $630 million in 1972. Exports during this period registered a steady but far less rapid growth, such that, in 1971, Japan actually experienced a negative monetary trade balance in marine products. This was also true in 1972, and the trend is expected to continue as local fishing waters become polluted and fishing competition grows in international waters.

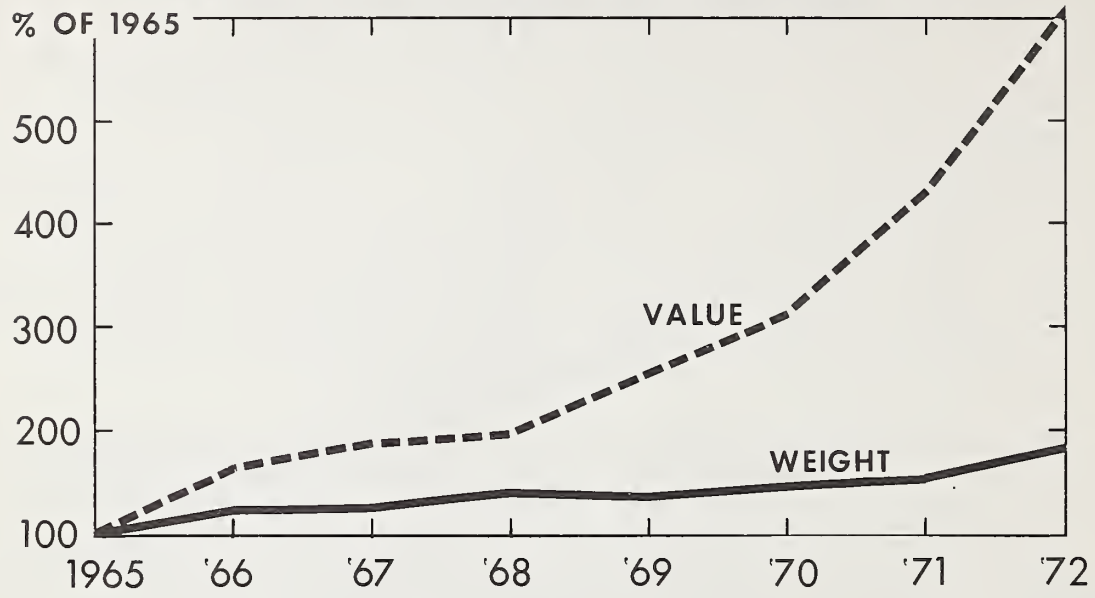
Average unit values of imported marine products have risen sharply during the past 8 years. In 1965, the average unit value of all marine products imported was $380 per M.T. By 1972, this had risen to $1,281 per M.T. The major cause of this rapid increase in value can be seen from the data depicted in Figure 6; there has been a rapid shift in the composition of Japan's marine imports from fish meal, oil, and other byproducts to more valuable fish and shellfish.

FIGURE 4.--JAPAN: INDICES OF DOMESTIC CATCH AND IMPORTS OF MARINE PRODUCTS, PRODUCT WEIGHT BASIS, 1965-1972



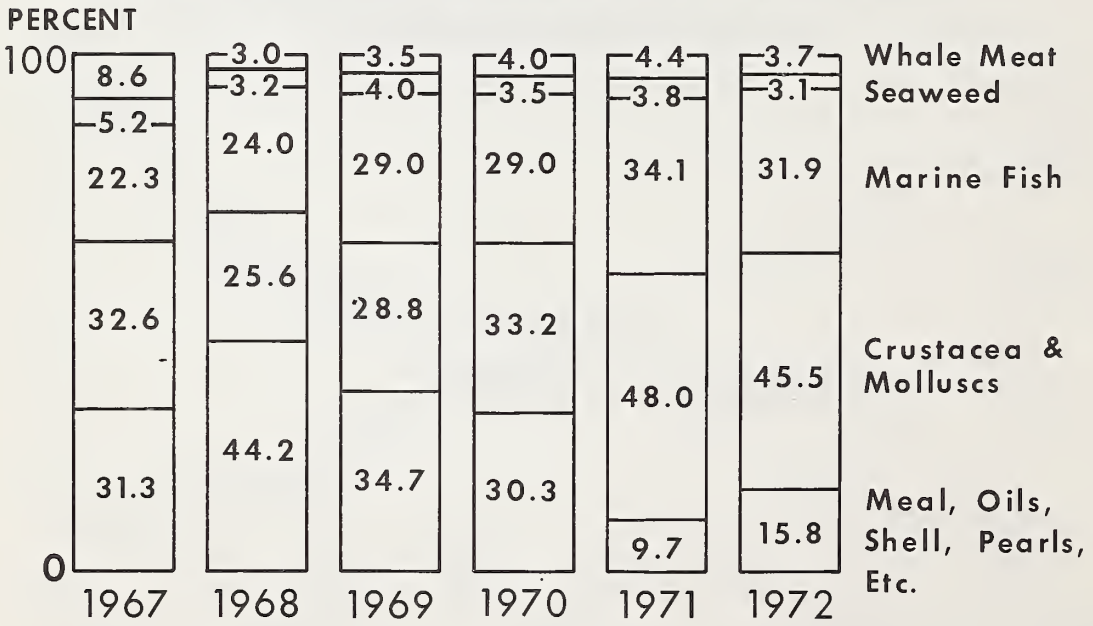
SOURCE: DERIVED FROM *JAPAN: EXPORTS AND IMPORTS, 1965-1972*, JAPAN TARIFF ASSOCIATION, AND *FISHERIES STATISTICS OF JAPAN, 1970-71*, MINISTRY OF AGRICULTURE AND FORESTRY

FIGURE 5. --JAPAN: INDICES OF VALUE AND PRODUCT WEIGHT OF MARINE IMPORTS, 1965-1972



SOURCE: DERIVED FROM *JAPAN: EXPORTS AND IMPORTS, 1965-1972,* JAPAN TARIFF ASSOCIATION

FIGURE 6.--JAPAN: COMPOSITION OF MARINE PRODUCT IMPORTS BY PRODUCT WEIGHT, 1967-1972



SOURCE: DERIVED FROM *JAPAN: EXPORTS AND IMPORTS, 1967-1972,* JAPAN TARIFF ASSOCIATION

In fact, crustacea and mollusks (including shrimp, prawn, and lobster), which constituted 32.6 percent of all marine imports in 1967, had increased to 45.5 percent of the imports by 1972. Marine fish had increased from 22.3 percent to 31.9 percent, while fish meal, oils, etc., had decreased from 31.3 percent to 15.8 percent.

Because edible fish and shellfish are constituting increasingly larger proportions of total marine product imports, and because the products with supply potential in Vietnam fall within this category, the USDA/AID/Vietnamese team compiled a rough supply disappearance table for edible fish and shellfish in Japan (Table 3). All import and export entries are converted from the product weight data quoted above to a live weight basis to correspond with the domestic catch data.4/

Table 3.--Japan: Annual supply and disappearance of edible fish and shellfish, live weight basis, 1965-1971 and projection to 1980

Year	Domestic catch	Imports	Exports	Domestic disappearance
	Thousand metric tons			
1965	5,444	550	721	5,273
1967	6,007	862	790	6,079
1969	6,340	502	889	5,953
1970	6,755	673	989	6,439
1971	7,081	856	996	6,941
1980 1/	7,685	1,640	1,066	8,259

1/ Estimate based on projected trends.

Domestic disappearance of edible fish and shellfish in Japan (ignoring changes in stocks) has increased from 5.273 million M.T. in 1965 to 6.941 million M.T. in 1971. Domestic disappearance by 1980, as discussed previously, has been estimated at 8.259 million M.T.

Supply and demand data for non-edible Japanese marine products, and analyses of selected variables which influence demand and demand relationships for specific marine products, as reported by the Japan Marine Association, are presented in Appendix B.

4/ The conversion used processing factors obtained from the Fisheries Agency, Ministry of Agriculture and Forestry.

SHRIMP, PRAWN, AND LOBSTERS

Import quotas for shrimp and prawn were liberalized by the Japanese Ministry of International Trade and Industry for the calendar year 1971. Note that imports in 1971 were 77.2 percent more than in 1967 (Table 4). The need to liberalize imports of these shellfish resulted from a decreasing domestic fishing fleet catch in relation to continuing strong domestic demand. Japan's experience is similar to that of other countries; world demand for shellfish continues to grow more rapidly than harvests, as reflected by higher prices.

Table 4.--Japan: Supply and disappearance of shrimp, prawn, and lobster, 1967-1971

Year	Domestic catch		Imports		Exports	Domestic disappearance	
	M.T.	Pct. change from 1967	M.T.	Pct. change from 1967	M.T.	M.T.	Pct. change from 1967
1967	62,181	--	44,986	--	2,203	104,964	--
1968	67,703	+8.9	35,695	-20.6	4,514	98,884	-5.8
1969	59,485	-4.3	49,521	+10.1	4,834	104,172	-0.8
1970	55,637	-10.5	57,709	+28.3	3,527	109,819	+4.6
1971	51,151	-17.7	79,715	+77.2	4,237	126,629	+20.6

Interviews with fish industry leaders in January 1973 indicated that Japan had liberalized 1971-1972 imports more rapidly than domestic consumption warranted, however. The evidence cited was the amount of shrimp and prawn in frozen storage as of December 1972; estimates ranged from 5,000 to 15,000 M.T. Undoubtedly some of these stocks were being held speculatively as a hedge against supply shortages and rising world shrimp prices. This phenomenon will be discussed in more detail later in the report.

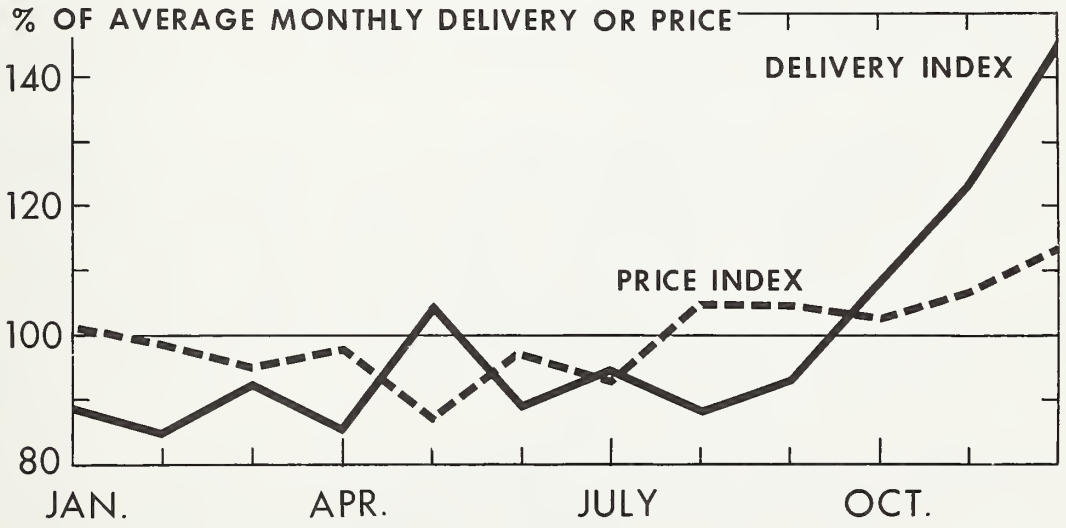
The value of shrimp, prawn, and lobster imports into Japan continued to increase strongly between 1967 and 1972. For example, some 45,000 M.T. imported in 1967 had a total value of $79.8 million, making the average unit value $1,788. However, by 1972, while the volume of imports had increased 96.7 percent to 88.5 thousand M.T., the value had increased 272.8 percent to $297.5 million (Table 5). Over the same period, average price increased from $1,788 per M.T. to $3,362.

Table 5.--Japan: Change in value and average unit prices of shrimp, prawn, and lobster imports, 1967-1972

Year	Value		Average unit price	
	Million dollars	Pct. change from 1967	Dollars/M.T.	Pct. change from 1967
1967	79.8	--	1,788	--
1968	78.1	-2.1	2,211	+23.7
1969	121.8	+52.6	2,483	+38.9
1970	137.5	+72.3	2,397	+34.1
1971	213.2	+167.2	2,694	+50.7
1972	297.5	+272.8	3,362	+88.0

The seasonality of delivery and price of imports is depicted in Figure 7. These indices are based on 3-year simple averages, 1970 through 1972. A typical inverse relationship between quantities delivered and prices, although somewhat shallow, is evident from January through September. That is, as deliveries of shrimp and prawn increase, prices decrease, and vice versa. However, from October through December, deliveries and prices both increase significantly above their average monthly values.

FIGURE 7. -- JAPAN: INDICES OF MONTHLY DELIVERIES AND PRICES OF IMPORTED SHRIMP, PRAWN, AND LOBSTER THREE-YEAR AVERAGE, 1970-72



SOURCE: OERIVED FROM DATA SUPPLIED BY THE JAPAN MINISTRY OF AGRICULTURE ANO FORESTRY, FISHERY AGENCY

For example, imports of fresh, chilled, or frozen shrimp and prawn averaged 9,037 M.T. in December; this represents a delivery index of 145, or 45 percentage points above average monthly deliveries of 6,226 M.T. over the 3-year period. But average unit prices for shrimp and prawn do not decrease as one would expect in December. In fact, the average December price of $3,167 per M.T. is 13 percentage points above the $2,807 per M.T. average price for all months. This is because shrimp and prawn are consumed in large quantities during the Japanese national year-end holidays and premium pay periods.5/

Interviews with Shrimp and Prawn Traders

Shrimp and prawn were the only Vietnamese marine products that all Japanese interviewed agreed had very favorable import potential in Japan. There also was concensus among the Japanese that Vietnam probably had sufficient supplies to develop a viable export trade once hostilities ceased. Vietnam exported only 26 M.T. of frozen shrimp to Japan in 1970 and 106 M.T. in 1971, but these exports increased to slightly more than 1,240 M.T. in 1972. The 1,240 M.T. were still only 1.4 percent of all Japanese frozen shrimp imports that year, however.

The 10 leading countries supplying frozen shrimp and prawn to Japan in 1972 are shown in Table 6. Note that these countries accounted for 72.3 percent of all frozen shrimp and prawn imports by weight in 1972, and 74.4 percent of the total on a value basis. Average values varied from a low of $3,509 per M.T. for shrimp from Pakistan, to a high of $4,770 for those from Australia; the average was $3,368 per M.T. However, the price differences may be due to varietal, pack, and quality differences, or some combination thereof.

Product quality is an important consideration if Vietnam wishes to expand its exports to Japan.6/ The importers interviewed indicated that the initial imports from Vietnam were high quality, but that more recent shipments have been of mixed quality. The average unit price paid for Vietnamese shipments in 1972 was higher than that paid the top 10 countries except Australia and China. In addition to quality, this may be a reflection of shrimp size and the nature of the pack of the Vietnam product compared with that of other countries.

Japanese importers used examples from India, Thailand, and Malaysia to emphasize their points about quality standards and maintenance. Unless efficient chilling or freezing methods are used to keep shrimp and prawn fresh, severe price discounting is necessary. Also, packs must be standardized to correct weights. To assist exporting countries meet Japan's market requirements, the Japan Marine Products Importers Association has developed import standards for shrimp and prawn covering quality, processing, weight, and packaging considerations (see Appendix A).

5/ Discussions with fisheries experts in the U.S. National Oceanic and Atmospheric Administration, knowledgeable about Japanese fish consumption and demand, confirmed that this has been a long-term seasonal pattern in Japan.

6/ A general review of Japan's detailed health and sanitation standards in force for imported fish and fish products is presented in Appendix H.

Table 6.--Japan: Frozen shrimp and prawn imports, 1972

Country	Quantity	Value	Average unit price
	M.T.	Thousand dollars	Dollars/M.T.
All imports	88,120	296,761	3,368
Indonesia	13,824	46,931	3,395
India	12,812	40,597	3,169
Thailand	7,507	24,637	3,282
Malaysia	5,841	13,733	2,351
Mexico	5,407	22,701	4,198
Taiwan	4,555	12,039	2,643
Australia	4,096	19,538	4,770
Hong Kong	3,539	15,597	4,407
China	3,519	15,730	4,470
Pakistan	2,607	9,149	3,509
Subtotal	63,707	220,651	3,464
Top 10 countries as a percent of all imports	72.3	74.4	
Vietnam	1,240	5,522	4,453
Vietnam as percent of total	1.4		

The importers stressed the need for speed and cleanliness in shrimp and prawn processing. Shrimp and prawn lose freshness faster than other fish species, developing black spots rapidly due to their own enzyme action and bacterial actions coming from other fish caught with them. For this reason, if heads are to be removed prior to processing, which is recommended, it has to be done early to avoid loss of freshness from enzymes within the head. Care must also be taken not to lose the valuable meat in the head portion. The method of head removal can greatly affect yield and value.

Importers also stressed cleanliness of the equipment shrimp make contact with, such as grading tables and baskets. These must be washed and sanitized regularly. The Japanese Government is also very strict on the use of food additives and closely regulates the use of sulphites in shrimp. While the United States has no requirements on sulphites, Canada, for example, limits its use to 130 parts per million (p.p.m.); Japan allows only 100 p.p.m. These points greatly concern the Japanese regarding Vietnamese shrimp, and must receive attention if Vietnam is to compete effectively.

Summarizing, shrimp and prawn exports from Vietnam to Japan were only 1,240 M.T. in 1972, or 1.4 percent of total Japanese imports. This could probably be expanded greatly in the next few years. This conclusion is based upon several facts and assumptions. The major economic facts having a positive influence include: 1) rising demand in Japan with its expanding population and per capita income; 2) a strong consumer preference for fish, especially high value shellfish such as shrimp and prawn; 3) a declining local supply of shrimp and prawn harvested by Japan's domestic fishing fleet; and 4) continuing increases in world demand and prices for shrimp and prawn, without corresponding increases in world supplies.

The assumptions are: 1) that Vietnam has available untapped harvestable supplies of shrimp and prawn that it can exploit by expanding its trawler activity; 2) that such activity can be accomplished without jeopardizing future shrimp and prawn harvests, spawning, and growth patterns; 3) that the activities described above can be done at costs which are equal to or below average prices paid in Japan, less transportation and handling to Japan (and allowing a fair rate of return for capital and management as a part of those costs); and 4) that Vietnam shrimp and prawn are handled and processed in such a way as to meet or exceed Japan's detailed quality standards.

LIVE LOBSTERS

The Japanese data studied combined lobster with shrimp and prawn, making it impossible to separate out the lobster imports, domestic catch, and consumption. However, the market seems to be strong, like that for shrimp and prawn.

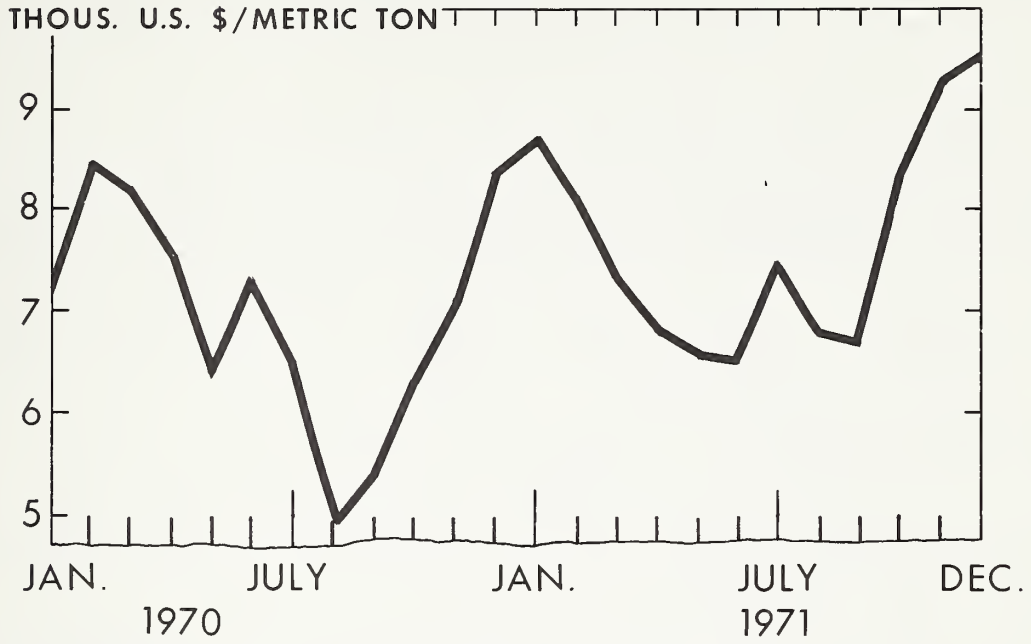
The monthly average price data for live lobster from the Tokyo wholesale market are shown in Figure 8. These are higher than c.i.f. prices would be at a port of entry by the amount of the import tariff, handling, the importer's margin, and transportation to the market. Note that a distinct seasonal price pattern is evident. Prices reach their highest point in January or February and their lowest point in August or September. A surge in prices is also evident in June or July.

A second observation from the data in Figure 8 is that an upward trend in prices occurred both years. The high prices for the seasonal cycles (including the end of the 1969 season) were $8,464 per M.T., $8,703, and $9,530, respectively. Two low points were observed; these were $4,933 per M.T. and $6,517.

Japanese importers indicated that Australia is their major lobster supplier. The Japanese market prefers small lobsters, probably less than 16 ounces. The Australian government has established a policy of protecting or regulating the harvest of smaller lobsters to insure a more stable supply of these sizes for the Japanese and other export markets.

Probing interviews revealed that Japanese traders were unsure of the quality and quantity available of Vietnam's lobsters. They did, however, request more information and samples of Vietnam's product, which indicates that some potential may exist. Two additional considerations influence the market potential for lobster: import tariffs and quotas. The import tariff for lobster is the same as that for shrimp and prawn, 4 percent ad valorem. There is a 6 percent ad valorem import tariff on all processed shrimp, prawn, and lobster products. There are currently no import quotas in force for shrimp, prawn, or lobster.

FIGURE 8. AVERAGE MONTHLY LIVE LOBSTER PRICES, TOKYO WHOLESALE MARKET, 1970 AND 1971



SOURCE: TOKYO METROPOLITAN CENTRAL WHOLESALE MARKET, MARINE PRODUCTS SECTION

CRABS

Japanese imports of fresh, chilled, or frozen crabs have been increasing rapidly the past 3 years. Total imports were 897 M.T. in 1970, but had increased to 2,519 M.T. by 1972 (Table 7). Total value of these imports more than tripled, increasing from $839,786 in 1970 to $3,385,945 by 1972. Average unit price per M.T. also increased from $936 to $1,344.

Table 7.--Japan: Aggregate value, tonnage, and average unit prices of fresh, chilled, and frozen crab imports, 1970-1972

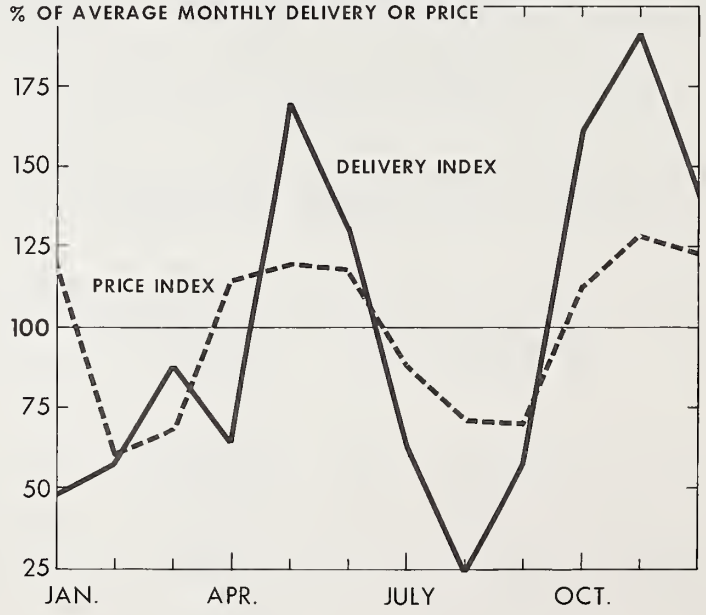
Year	Quantity	Value	Average unit price
	Metric tons	Dollars	Dollars/M.T.
1970	897	839,786	936
1971	1,426	1,557,037	1,092
1972	2,519	3,385,945	1,344

The seasonality of deliveries of crab imports and prices is depicted in Figure 9. Three-year simple monthly averages were utilized to compute monthly index numbers. There are two peaks and troughs in both deliveries and prices yearly. Supplies were 70 percentage points above their average monthly value in May and 92 percentage points above in November for the 3 years. Surprisingly, prices were also at their highest points seasonally in these months, showing indices of 120 in May and 129 in November.

Conversely, deliveries were lowest in January and August, 51 percentage points below normal in the former month and 76 below in the latter. Prices were lowest in February and September, having indices of 61 and 70, respectively. This direct relationship between changes in deliveries and prices implies that consumption patterns for crab meat have a very strong influence on the market for the product. Apparently, Japanese festival meals in late spring and late fall feature crustacea, and demand for crab meat is very high at these particular times.

The major countries exporting crabs to Japan in 1972 were South Korea, North Korea, People's Republic of China, and Hong Kong. These four countries supplied 78 percent of Japan's imports that year; South Korea alone supplied more than 66 percent. It is important to note that Japan's imports are increasing as domestic production has been decreasing. Japanese demand, both by housewives and restaurants, has been so strong in recent years that crabs have been cultured in domestic lakes. However, water pollution has been increasing, creating domestic production problems. Consequently, imports are expected to continue to rise.

FIGURE 9. -- JAPAN: INDICES OF MONTHLY DELIVERIES AND PRICES OF IMPORTED FRESH, CHILLED OR FROZEN CRAB THREE-YEAR AVERAGE, 1970-72



SOURCE: DERIVED FROM DATA SUPPLIED BY THE JAPAN MINISTRY OF AGRICULTURE AND FORESTRY, FISHERY AGENCY

The mangrove crab is the species Vietnam would like to export to Japan. Importers indicated to the USDA/AID/Vietnam team that Japanese housewives prefer fresh crabs, and will not buy (or will only buy at greatly discounted prices) crabs which are blue in color. This is the natural color of one of the common brackish water crabs; it only turns an acceptable red shell color when it is boiled.

Consequently, the Japanese importers saw little probability of marketing this species of crabs through retail stores to ultimate consumers. Their suggestion was that Vietnam investigate the restaurant trade as a possible outlet. They suggested that fresh crabs weighing 500 to 600 grams each would command highest prices in this institutional market. The possibility of boiling and freezing crabs for export to Japan should also be investigated as well as the potential for mangrove crabs.

The team observed many live crabs and lobsters being auctioned at the Tokyo wholesale fish market. These had been shipped in damp sawdust in wood crates weighing about 30 kilograms. Apparently, light refrigeration is all that is necessary to keep the crabs alive for up to 72 hours with this packing method.

There are no import quotas on crabs at the present time. The import tariff is 8 percent ad valorem.

CUTTLEFISH AND SQUID

The Japanese squid and cuttlefish catch has been decreasing, on a live weight basis, since 1967 (Table 8). Imports have more than doubled while exports have decreased. However, when the import-export statistics are analyzed on a product weight basis, some additional information is obtained.

Table 8.--Japan: Annual supply and disappearance of cuttlefish and squid, live weight basis, 1967-1971

Year	Domestic catch		Imports		Exports		Domestic disappearance
	M.T.	Pct. change from 1967	M.T.	Pct. change from 1967	M.T.	Pct. change from 1967	M.T.
1967..	596,848	--	16,813	--	26,970	--	586,691
1968..	773,777	+29.6	10,063	-40.1	19,212	-28.8	764,628
1969..	589,798	-1.2	10,540	-37.3	23,262	-13.7	577,076
1970..	518,917	-13.1	30,042	+78.7	29,723	+10.2	519,236
1971..	482,520	-19.2	34,366	+104.4	20,587	-23.7	496,299

Japanese imports of all forms of cuttlefish and squid exceeded exports on a product weight basis for the first time in 1971 (Table 9). The category "unprocessed" means "fresh, chilled, or frozen." Thus, in a marketing sense, the category includes some processing activities such as grading to size, removing beaks, standardizing as to weight, freezing, etc. Total imports on a product weight basis more than tripled between 1967 and 1971, increasing from 8,599 M.T. to 25,396. Average price of all imports was $961 per M.T. in 1971, while exports averaged only $466.

Table 9. --Japan: Imports and exports of cuttlefish and squid, product weight basis, 1967-1971

	1967	1968	1969	1970	1971
	Metric tons				
Imports					
Unprocessed[1/]	5,166.3	8,502.7	8,458.0	15,225.1	21,329.7
Salted and dried	1,605.7	3.5	--	2,213.4	1,234.6
Prepared	1,826.7	540.6	728.1	2,085.0	2,831.6
Total	8,598.7	9,046.8	9,186.1	19,523.5	25,395.9
	Dollars/M.T.				
Average unit price	597	357	455	909	961
	Metric tons				
Exports					
Unprocessed	11,824.7	12,526.0	15,144.4	22,361.1	20,538.3
Salted and dried	537.4	239.1	470.3	44.4	12.2
Canned	4,543.7	2,003.6	2,180.8	2,512.0	--
Total	16,905.8	14,768.7	17,795.5	24,917.5	20,550.5
	Dollars/M.T.				
Average unit price	320	354	448	494	466

1/ "Unprocessed" means "fresh, chilled, or frozen."

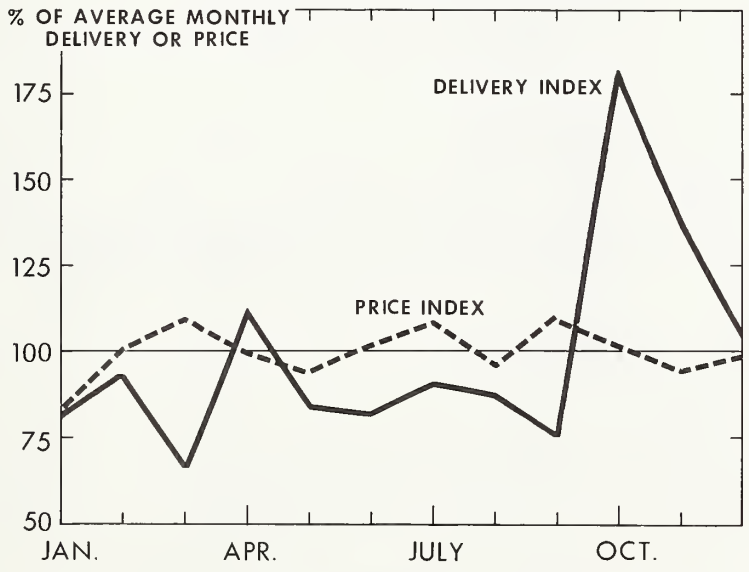
The data suggest that Japan's demand for higher value cuttlefish and squid products is increasing rapidly, while exports from the domestic catch are increasing much less rapidly, and at much lower average prices. The major countries exporting cuttlefish and squid to Japan in 1971 were South Korea, Spain, the Canary Islands, and France. These four countries supplied more than 70 percent of Japan's imports. Italy received more than half of Japan's 20,550 M.T. of cuttlefish and squid exports that year.

Cuttlefish and squid imports have a marked seasonal pattern (Figure 10). Deliveries peak in October when the index reaches 182, or 82 percentage points above average monthly deliveries for the year. March had smallest deliveries from 1970 through 1972, with an average 1,203 M.T. imported. This contrasts with an average of 3,265 M.T. imported in October, and with the monthly average of 1,790 M.T.

Prices do not vary by months nearly as much as quantities delivered. The price index for the 3 years studied varied only within the range of 83 to 110. The average prices on which the index is based varied between $626 and $830 per M.T. Apparently demand has been fairly stable in recent years, and prices are related more to total supply than to changes in supplies of imports.

Interviews with importers pointed up several important marketing factors. They felt that cuttlefish and squid from Vietnam had very good import potential in Japan. One very large importer thought they ranked slightly behind shrimp and prawn and jellyfish in market potential, and that Vietnam had sufficient quantities to develop a long-run market. Others indicated a similar belief, especially if Vietnam's squid and cuttlefish are similar to the species being exported to Japan from Thailand.

FIGURE 10. -- JAPAN: INDICES OF MONTHLY DELIVERIES AND PRICES OF IMPORTED CUTTLEFISH AND SQUID THREE-YEAR AVERAGE, 1970-72



SOURCE: DERIVED FROM DATA SUPPLIED BY THE JAPAN MINISTRY OF AGRICULTURE AND FORESTRY, FISHERY AGENCY

Unfortunately, the Japanese trade data combine cuttlefish and squid price data. Traders indicated that squid is usually lower in price than cuttlefish, although some squid species command a premium. Both products are under import quotas. Squid was under a six-country quota until 1972 when market pressures, including the declining domestic catch, forced a relaxation. The number of eligible supplying countries was increased to 45, including Vietnam. The quota was 4,500 M.T. for the first half of fiscal 1972, 5,500 M.T. the last half, and increased to 6,000 M.T. for the first half of 1973.

South Korea has a special quota for squid, as it does for many other species, which explains its very rapid growth as an import supplier. There is also a global quota for cuttlefish which is largely met by Spain and the Canary Islands. The quota was 23,800 M.T. in 1972. Thus, it appears from the import data that either very little squid is being imported, or the cuttlefish quota is not being reached.

The Japanese prefer that squid and cuttlefish be exported to Japan in block frozen form. There is an 8 percent ad valorem tariff on both squid and cuttlefish. Japanese importers and government officials encouraged Vietnamese traders to submit samples and/or develop a trade mission to promote sales of both cuttlefish and squid, and to develop contracts and requests to participate in Japan's new import quotas for the species.

JELLYFISH

Japan imported approximately 5,300 M.T. of jellyfish in 1972. This was more than 1,000 M.T. less than that recorded in 1967, when nearly 6,400 M.T. were imported (Table 10). These data are on a product weight basis; virtually all imports are dried, salted, or smoked. Consequently, the total value of all imports, more than $7 million, results in a computed average unit price of $1,336 per M.T.

Table 10.- - Japan: Imports of jellyfish, product weights, value and average price, 1967-1972

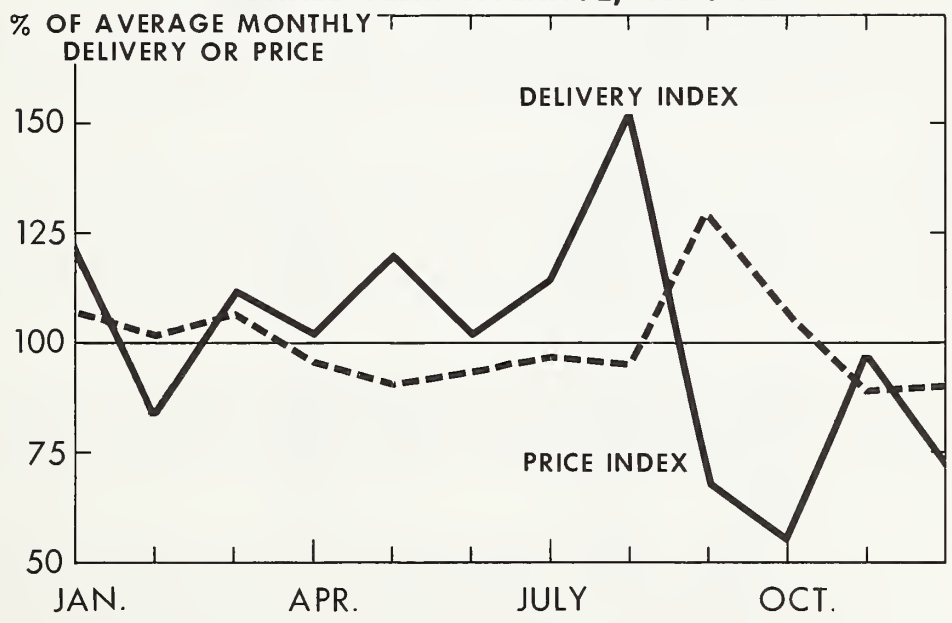
Year	Quantity	Value	Average unit price
	Metric tons	Thousand dollars	Dollars/M.T.
1967	6,398	3,436	537
1968	2,816	2,020	717
1969	2,647	4,068	1,537
1970	3,901	7,793	1,998
1971	4,686	6,785	1,448
1972	5,331	7,121	1,336

Apparently there has been a shift in demand and/or quality of the jellyfish imported into Japan. This is indicated by increases in average unit prices since 1967. These prices increased from an average of $537 and $717 per M.T. in 1967 and 1968 to a high of $1,998 per M.T. in 1970. They then dropped to $1,448 in 1971 and to their present level of $1,336 in 1972. There were no exports of jellyfish from Japan recorded during the most recent 6-year period.

The seasonality of jellyfish deliveries and prices is depicted by the 3-year indices shown in Figure 11. Deliveries peak in August when they are 52 percentage points above their average level for the year. Prices are near their lowest point of the year when deliveries are highest, but they only decline to 5 percentage points below their average monthly level.

Deliveries reach their low point in October, although September is also a low month; their indices are 56 and 68, respectively. The typical inverse relationship between deliveries and prices is evident when demand is relatively constant. Prices reached their highest point in September--129 on the index--and were 107 in October. The phenomena described above can be explained by the fact that monsoon rains occur in the fishing grounds near the mainland of China from August to October.

FIGURE 11. -- JAPAN: INDICES OF MONTHLY DELIVERIES AND PRICES OF IMPORTED JELLYFISH THREE-YEAR AVERAGE, 1970-72



SOURCE: DERIVED FROM DATA SUPPLIED BY THE JAPAN MINISTRY OF AGRICULTURE AND FORESTRY, FISHERY AGENCY

The Japanese importers felt that jellyfish represented an excellent market opportunity for Vietnam in Japan. Currently nearly 90 percent of the imports come from the People's Republic of China, and the remaining 10 percent from a few Southeast Asian countries. However, China's harvest of jellyfish is decreasing, and the Japanese government and traders are actively seeking alternative sources of supply.

The traders indicated that the quality of Chinese salted jellyfish has been excellent in the past, but that quality from Thailand and other countries has only been fair. They repeated Japan's need for an alternative source like Vietnam, however, and talked about importing firms' willingness to provide short-term technical quality control assistance to Vietnamese exporting firms.

A second reason the Japanese rated the Vietnamese export potential high for salted jellyfish (one trader said second only to shrimp in potential) was because of the ease of processing the product. Jellyfish for the Japanese market should be about 18 inches in diameter before dehydration with salt and alum. Processing simply involves turning the drying product in commercial drying ovens from time to time and adding salt and alum.

The Japanese importers warned against sun drying jellyfish, as these are not acceptable in the Japanese market. The final salted product will lose about 99 percent of its original weight, and will be a wafer one to three millimeters in thickness. Thickness is a measure of quality; the thicker the wafer, the higher the quality and price. There are no import quotas on jellyfish. The import tariff is 8 percent ad valorem.

RED SNAPPER AND SEA BREAM

Sea bream domestic catch, import, and export data are detailed in Japan's fish statistics, while snapper are included in the general category "Other Fish." However, an analysis of the sea bream data should give some important insights into the export potential for Vietnam snapper since the two species are similar.

Japan's sea bream catch has averaged nearly 37,000 M.T. per year over the past 5 years (Table 11). Sea bream exports have exceeded imports by an average of 6,000 M.T. per year over the past 5 years, although this is decreasing as the domestic catch decreases. Domestic disappearance seems to average about 30,000 M.T. per year, so the product is quite popular in the Japanese diet.

The major countries exporting sea bream to Japan in 1971 were New Zealand, Taiwan, and South Africa, with New Zealand providing 65 percent of the imports. Exports from Japan were destined primarily for Liberia, Lebanon, Sierra Leone, and Italy in 1971. These four countries received 72 percent of Japan's sea bream exports that year.

The average unit price of both sea bream imports and exports has been increasing since 1967 (Table 12). The average import price was only $835 per M.T. in 1972, but this was two and one-half times the average price paid in 1967. These relatively low prices per M.T. are a reflection of the preferred form that the importers request be delivered -- chilled or frozen, whole or "in

Table 11.--Japan. Annual supply and disappearance of sea bream, live weight basis, 1967-1971

Year	Domestic catch		Imports		Exports		Domestic disappearance
	M.T.	Pct. change from 1967	M.T.	Pct. change from 1967	M.T.	Pct. change from 1967	M.T.
1967..	40,539	--	1,556	--	9,607	--	32,488
1968..	37,782	-6.8	1,146	-35.8	9,494	-1.2	29,434
1969..	38,137	-5.9	2,742	+76.2	9,939	+3.5	30,940
1970..	38,477	-5.1	2,727	+75.3	6,757	-29.7	34,447
1971..	29,235	-27.9	2,210	+42.0	5,556	-42.2	25,889

Table 12.--Japan: Imports and exports of sea bream, product weight basis, 1967-1972

Year	Quantity	Value	Average unit price
	Metric tons	Thousand dollars	Dollars/M.T.
		IMPORTS	
1967	1,556	516	332
1968	1,146	368	321
1969	2,742	708	258
1970	2,727	1,289	473
1971	2,210	1,390	629
1972	3,787	3,165	835
		EXPORTS	
1967	9,606	1,526	159
1968	9,494	1,466	154
1969	9,939	1,392	140
1970	6,757	1,153	171
1971	5,556	1,492	269

the round." The average unit price of exports varied between $140 and $269 per M.T., only about one-third the value of imports, indicating that lower grades are shipped to other countries from Japan's domestic catch.

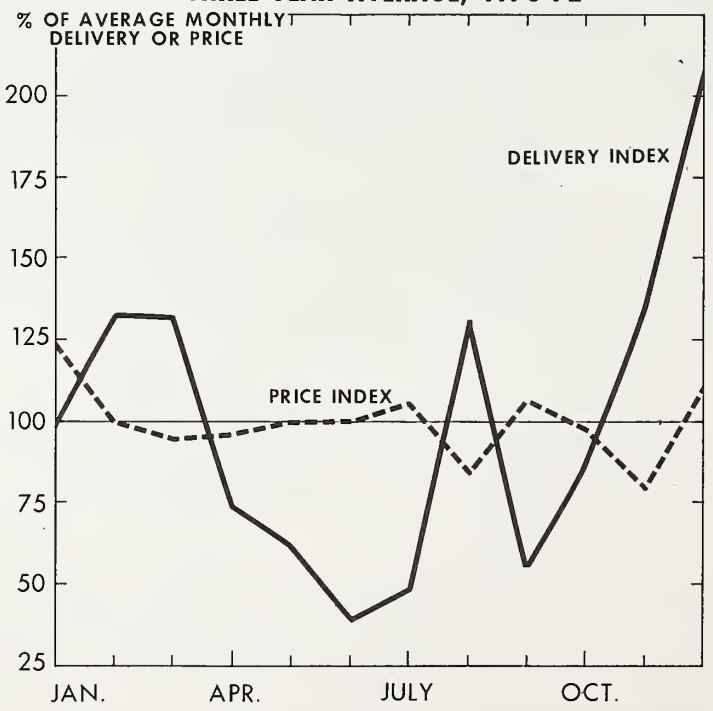
The seasonality pattern of deliveries and prices for sea bream imports is shown in Figure 12. Deliveries are quite erratic; three distinct peaks and two troughs each year were observed during the 3 years studied. Deliveries are quite high in December, and are well above average in August and February-March. The lowest import delivery months are June and September.

Prices demonstrate an inverse pattern to deliveries, except that the swings are not as pronounced. While the delivery index moved from a low of 39 in June to a high of 207 in December, the price index only moved from 79 at its low point in November to a high of 124 in January.

Although the sea bream is a delicacy in Japan as far as ocean fish are concerned and there are no quotas, the erratic nature of supply-demand relationships makes it a relatively risky venture for Vietnam. The local supply is heaviest in May to June when Japanese-owned boats return from Africa.

Traders indicated that the maintenance of scale structure and color are critical to value. Since there are many species of snapper and bream, with quite different prices for each, the Vietnamese species must be evaluated carefully by Japanese importers. The timing of Vietnam's catch and delivery is

FIGURE 12. -- JAPAN: INDICES OF MONTHLY DELIVERIES AND PRICES OF IMPORTED SEA BREAM THREE-YEAR AVERAGE, 1970-72



SOURCE: DERIVED FROM DATA SUPPLIED BY THE JAPAN MINISTRY OF AGRICULTURE AND FORESTRY, FISHERY AGENCY

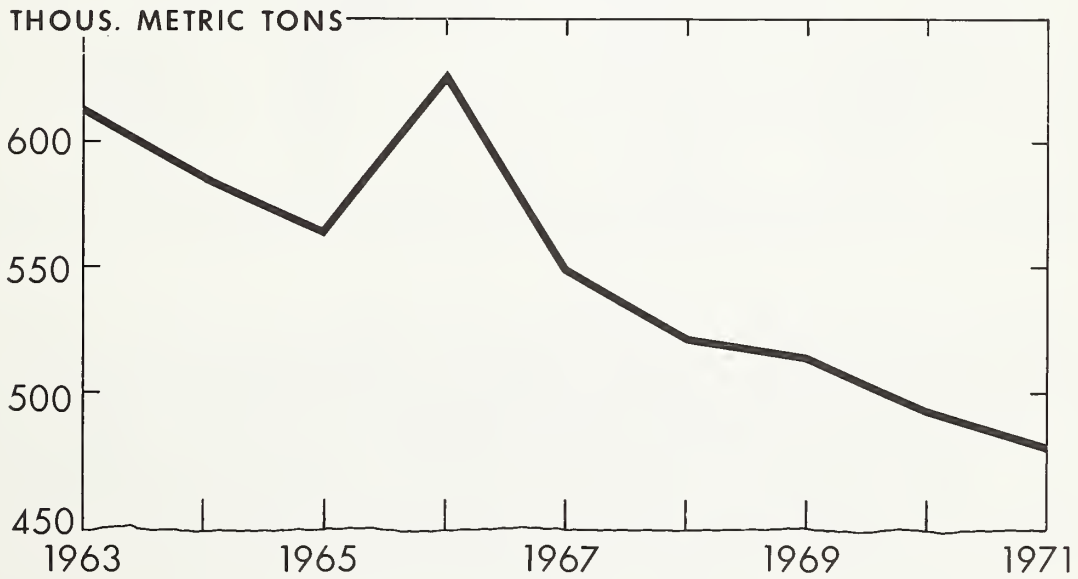
also a critical factor if Vietnam desires to export profitably to the Japanese market. Japanese consumers prefer to purchase the product whole or "in the round." Consequently, marketing and packing must be done carefully since the fish must be quick frozen with vicera, head, and scales in tact and carefully protected. The import duty is 4 percent ad valorem; there is no quota.

TUNA

Tuna fish and allied species in the past represented the largest component of Japan's marine fish catch. However, the trend in total catch of these species has been down quite markedly in recent years (Figure 13). The 1971 catch was 479,509 M.T., nearly 22 percent below the 1963 catch of 614,253 M.T. However, the world catch of these important marine fish is up nearly 18 percent from 1965, rising from 1,045,000 M.T. to 1,232,000 in 1971.

Several factors account for Japan's decreasing tuna catch, according to experts at the U.S. Oceanic and Atmospheric Administration: 1) heavier fishing for tuna, especially southern bluefin and albacore, is occurring in all waters by all nations; 2) Japan's fleet is facing growing competition from the newly-modernized fleets from Taiwan and Korea; 3) recent international agreement quotas have been established for specific tuna species and Japan is participating in the reduced quotas; and 4) Latin American countries have extended territorial limits to 200 miles in the Pacific Ocean and have been banning fishing in those waters.

FIGURE 13.--JAPAN: CATCH OF TUNA FISH AND ALLIED SPECIES, 1963-1971 1/



1/ ALLIED SPECIES INCLUDE SKIPJACK, ALBACORE AND BONITO, AMONG OTHERS
SOURCE: JAPAN MINISTRY OF AGRICULTURE AND FORESTRY, FISHERY AGENCY

The tuna species of particular interest to Vietnam as potential export items are yellowfin and bluefin. The Japanese catch of these two species has also been decreasing in recent years (Table 13). The catch of yellowfin tuna has decreased very rapidly since 1965, from 123,589 M.T. to 70,857 M.T. in 1971. This is a 43 percent reduction. Simultaneously, Japan's exports of the species decreased from nearly 53,000 M.T. in 1967 to 15,497 M.T. in 1971. By reducing exports and importing approximately 7,000 M.T. per year beginning in 1970, Japan has been able to meet its increasing domestic demands as measured by domestic disappearance data. The latter increased from 40,750 M.T. to 62,368 between 1967 and 1971.

Table 13.--Japan: Annual supply and disappearance of bluefin and yellowfin tuna, live weight basis, 1967-1971

Year	Domestic catch		Imports	Exports	Domestic disappearance	
	M.T.	Pct. change from 1967	M.T.	M.T.	M.T.	Pct. change from 1967
			Yellowfin tuna			
1967	93,734	--	0	52,983	40,751	--
1968	115,515	+23.2	0	60,665	54,850	+34.6
1969	89,962	-4.0	0	32,692	57,270	+40.5
1970	79,077	-15.6	7,180	24,149	62,108	+52.4
1971	70,857	-24.4	7,008	15,497	62,368	+53.0
			Bluefin tuna			
1967	54,653	--	0	880	53,773	--
1968	56,509	+3.4	0	215	56,294	+4.7
1969	52,982	-3.1	0	59	52,923	-1.6
1970	43,899	-19.7	342	24	44,217	-17.8
1971	48,260	-11.7	451	0	48,711	-9.4

Although the Japanese bluefin tuna catch is down slightly from 1965, so is domestic disappearance. Average exports of approximately 300 M.T. per year had been reduced to zero by 1971, while imports were 451 M.T. The net effect has been that domestic catch has fallen slightly faster than demand for the species. This relationship should be observed carefully in the next few years by the Vietnamese industry. If domestic catch continues to decrease faster than demand, the difference will have to be made up from imports.

A complete analysis of price relationships for imported yellowfin and bluefin tuna is risky since no imports were recorded prior to 1970. However, for the most recent 3-year period, average unit prices have been increasing (Table 14). Note that in 1970 the average unit price for yellowfin tuna imported by Japan was $620 per M.T. The corresponding value for bluefin tuna was $602. By 1972 yellowfin imports averaged $1,000 per M.T. while bluefin tuna imports had increased to $1,431. In view of the decreasing domestic catch and Japan's growing population, it seems logical to conclude that import prices will remain firm as long as the trend in these variables continues.

Table 14.--Japan: Imports of yellowfin and bluefin tuna, product weight basis, 1970-1972

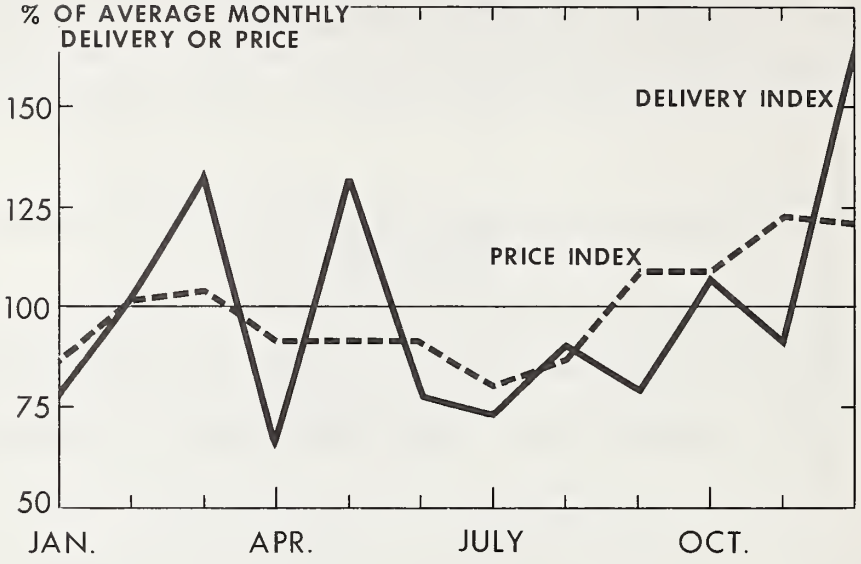
Year	Quantity	Value	Average unit price
	Metric tons	Thousand dollars	Dollars/M.T.
		Yellowfin tuna	
1970	7,180	4,449	620
1971	7,008	5,172	738
1972	8,430	8,426	1,000
		Bluefin tuna	
1970	342	206	602
1971	451	453	1,004
1972	1,001	1,432	1,431

Ryukyu, South Korea, and Taiwan have been the major sources of tuna imports, accounting for as much as 92 percent of all yellowfin imports and 89 percent of all other tuna imports.

Japan's biggest tuna export is the yellowfin. Italy, Puerto Rico, and the United States have been the major countries of destination since 1967. Exports of yellowfin tuna to these three countries were 90 percent of total Japanese tuna exports in 1971. Average unit price of yellowfin tuna exports was $592 per M.T. in 1971. Average unit price of other tuna and allied species exports was $486 per M.T. that year.

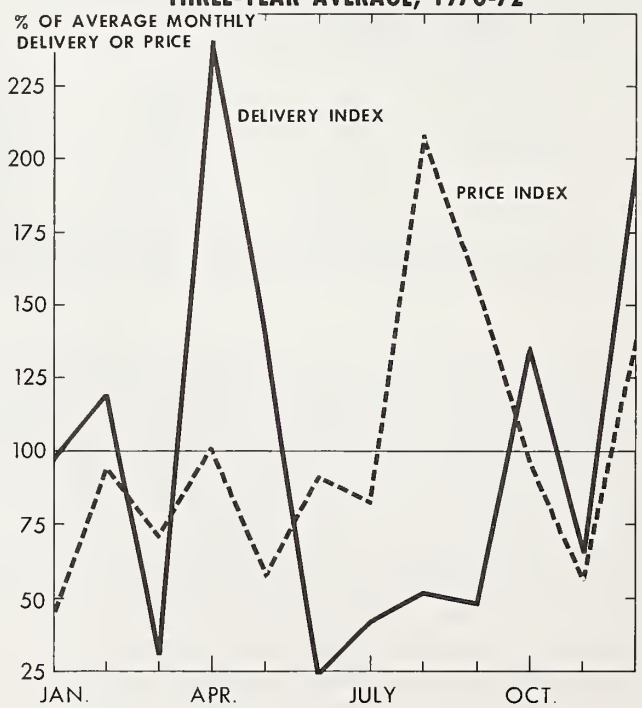
The seasonality patterns of monthly deliveries and prices of yellowfin and bluefin tuna imports are shown in Figures 14 and 15. The relationships are particularly erratic for bluefin tuna and should be evaluated with caution since monthly deliveries have been small since imports began in 1970. It would appear from the data for both species that two peaks in import deliveries occur each year. The first is in the spring, March to May, and the second in December.

FIGURE 14. -- JAPAN: INDICES OF MONTHLY DELIVERIES AND PRICES OF IMPORTED YELLOWFIN TUNA THREE-YEAR AVERAGE, 1970-72



SOURCE: DERIVED FROM DATA SUPPLIED BY THE JAPAN MINISTRY OF AGRICULTURE AND FORESTRY, FISHERY AGENCY

FIGURE 15. -- JAPAN: INDICES OF MONTHLY DELIVERIES AND PRICES OF IMPORTED BLUEFIN TUNA THREE-YEAR AVERAGE, 1970-72



SOURCE: DERIVED FROM DATA SUPPLIED BY THE JAPAN MINISTRY OF AGRICULTURE AND FORESTRY, FISHERY AGENCY

However, price changes do not demonstrate the usual inverse relationship with deliveries. This is because aggregate supply and domestic disappearance have been increasing only modestly since 1970, even though demand for imports of the two tuna species has been growing significantly. The Vietnamese fish exporting firms interested in supplying yellowfin and bluefin tuna to Japan should study these relationships carefully in the next several years.

Japanese importers indicated that yellowfin and bluefin tuna are the most valued tuna in Japan, and that Vietnam should consider them a very real export prospect if meat quality is maintained. They indicated that the Japanese fishing fleet traditionally uses long lines in tuna fishing and individually handles the fish caught to protect their external appearance. For this reason, importers requested that Vietnam furnish frozen samples for quality evaluation. The import tariff is 4 percent; no quotas are in force.

HARD CLAMS

The domestic catch and disappearance of hard clams in Japan declined from 40,000 M.T. per year to about 34,000 M.T. between 1967 and 1970. However, an abundant catch and increased imports pushed domestic disappearance over 70,000 M.T. in 1971.

Japan began importing clams in significant quantities in 1970. Imports practically tripled between 1970 and 1972, increasing from 5,600 M.T. to more than 15,000 M.T. annually; the value of imports in 1972 surpassed $7 million. Virtually all of these were imported unprocessed (live, fresh, chilled, or frozen) with less than 0.5 percent per year entering in processed form. In addition, three suppliers completely dominated the import market. North Korea, South Korea, and the People's Republic of China annually supplied more than 99 percent of all imports.

Average import prices during the 3-year period 1970-72 were quite stable. The weighted average unit price of all unprocessed imported clams was $465 per M.T. in 1970, $447 per M.T. in 1971, and $448 per M.T. in 1972. The small amounts of salted and dried clams which were imported commanded a substantially higher price--$1,719 per M.T. in 1972.

Definite seasonal variations may be observed in deliveries of imported clams, although prices remain relatively stable throughout the year (Figure 16). Hard clams are subject to the same bimodal fluctuations in demand which characterize other seafood products in Japan. National holidays in early May and early January, plus year-end bonuses in November and December, are occasions for increased consumption of hard clams. Thus, the quantity of imports delivered in April and December reached index values of 150 and 230 based on the monthly average. Seasonal fluctuations in the prices of imports, on the other hand, were far less marked. Due to adequate supplies, average monthly prices remained within 12 percentage points of the average price for the 3-year period.

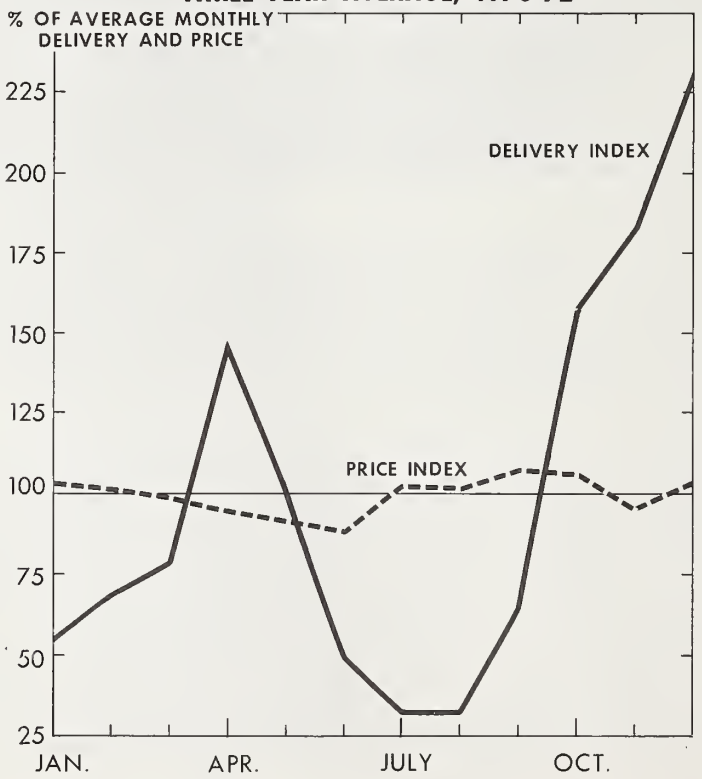
Importers and government officials indicated that the Japanese strongly prefer live clams over frozen. This preference implies increased costs since clams in the shell would have to be moved by air. This puts Vietnam at a distinct disadvantage when compared with the closer Koreans and Chinese. Vietnam would

have to cultivate a future market in Japan for salted, dried, frozen or canned clams. At present this market is very small, representing only 5 M.T. per year, and is dominated by supplies from North Korea. The Vietnam industry should very carefully study volume prospects in relation to costs and probable returns before drawing conclusions about its potential. Hard clams, fresh, chilled, or frozen, carry a 4 percent import tariff. Hard clams, salted or in brine, have a 6 percent tariff, while frozen and canned clams carry a 12 percent tariff. No quotas are currently in effect.

EEL

Eel consumption is increasing in Japan while domestic production has been trending downward from around 30,000 M.T. in the mid-1960's to about 20,000 M.T. in the 1970's. Consumption is currently estimated at 25,000-30,000 M.T. on a product weight basis, so imports are substantial and growing. However, it is a highly selective market and Vietnam will have difficulty competing effectively.

FIGURE 16. -- JAPAN: INDICES OF MONTHLY DELIVERIES AND PRICES OF IMPORTED HARD CLAMS THREE-YEAR AVERAGE, 1970-72



SOURCE: DERIVED FROM DATA SUPPLIED BY THE JAPAN MINISTRY OF AGRICULTURE AND FORESTRY, FISHERY AGENCY

The Japanese much prefer the native Anguilla Japonica, locally cultured and fresh. About 80 percent of the domestic production is now cultured, and this proportion is increasing. Brackish water eels and sea eels are not as popular as cultivated eels in Japan. Taiwan, Korea, and China also have the Anguilla Japonica and Japan relies heavily on these countries for importing fry. Europe, primarily France, is also a major fry supplier, but prices for their Anguilla Anguilla are heavily discounted (Table 15). Vietnam is thought to also have the Anguilla Anguilla or a closely related species, along with the "toothed eel" (Muraenesox Cinereus), which is very low priced in the Japanese market, and the rice field eel (Fluta Alba), which is completely unacceptable. Japanese traders are not sure about the Vietnam Anguilla species, but indicated it probably would be competitive in local markets if quality could be maintained and if it were appropriately priced. Most traders felt that Vietnam should limit its eel export efforts first to processed adult eel and possibly later to eel fry.

Adults

Adult eels are imported live from nearby sources, primarily Taiwan and Okinawa. This practice was not recommended for Vietnam because of the distance, air freight cost, and the relatively lower quality eel. Traders did not recommend exporting fresh frozen eel, since the meat tends to lose its desired flavor and prices may be heavily discounted as a result. Eel prices in November 1972 were quoted as follows:

Table 15.--Japan: Import prices for selected eel products, Tokyo, November 1972

Type	Asian origin[1/]	European origin[2/]
	-----Dollars per kg ----	
Natural or cultivated frozen adult (best size)	1.00-1.66	0.50-0.60
Precooked, natural adult	6.00-6.66	N A
Precooked, cultured adult	7.66-8.33	N A
Fry, 3,000-3,500/kg	33.00-40.00	18.00-20.00

NA = Not available.
1/ Primarily Anguilla Japonica.
2/ Primarily Anguilla Anguilla.

Eel quality is critical in the Japanese market. Quality involves freshness, which is closely related to color, skin tenderness, and fat content. The skin must be tender enough to be easily severed with chopsticks, the eel must be fat to enhance its flavor, and the meat must be white or creamy colored after cooking. The eel should weigh between 200-250 grams when killed. Larger eels, although preferred in Europe, are discounted in Japan. Although prices are not available on precooked European eel fillets, the price relationships above indicate a likely value of $2.50-$3.50 per kilogram.

Boiled eel fillets are well accepted in the Japanese market and demand is increasing. Traders suggested that the fresh fillets be boiled, strung on "sticks," wrapped in airtight packages, and then quick frozen. No sauce should be used, and it was advised to avoid food additives of any kind if at all possible. As with all Vietnamese marine products, an official "cholera free" statement will be required, but there are no quotas on eel imports and the import duty is only 4 percent.

Fry

Fry imports were 208 M.T. in 1972, and eel culture is an expanding, although as yet a highly complex operation. Eel fry of identical species from different locations adapt differently, and Japanese cultivators have had some bad experiences with growth rates before developing satisfactory techniques for raising fry from France and other sources. Consequently, traders felt that the Japanese cultivators would be reluctant to import fry from Vietnam which they know little about unless current sources of supply run short. Eventually, however, they believed this might happen and that Vietnam eel fry could find a market in Japan. In the meantime they suggested some fry samples be provided Japanese cultivators for 1 to 2 years of experimentation.

Another problem with fry importation is the high death loss. In the initial shipments from France, losses of 30 percent were not uncommon after the 16-hour flight. With greater care and experience, trade sources said this loss might be reduced to 10 percent.

The price of European eel fry in Japan usually varies between $18 and $20 per kilogram, about one-half the price of Anguilla Japonica fry. A kilogram of fry from France will contain 2,500 to 3,000 eels, while a kilogram from England or Italy will contain 3,000 to 3,500 fry. They are packed in special styrofoam containers which weigh about 1 kilogram when filled, and are shipped air freight, five containers per package. There are no quotas or tariffs on eel fry weighing less than 13 grams.

AQUARIUM SPECIES

Japan is second only to the United States in market size for aquarium fish. Trade sources indicated that the Japanese purchased $130 million of freshwater and saltwater tropical fish in 1972. It is estimated that 4 million families have aquariums and that, as incomes continue to rise, this number will increase rapidly. Tropical fish shops now number about 10,000. It is a big business and

the prospects for Vietnam exports were considered very good. A few big importers dominate the market; these tend to specialize by areas: South America, Africa, and Southeast Asia. Singapore, Bangkok, and Hong Kong are large trading cities and transshipment points to the United States and Europe for Southeast Asian tropical aquarium fish.

Prices in Japan vary widely depending upon the supply of each species and its popularity. Also, popularity switches quickly and often. However, prices of $300-$400 each are not uncommon for some of the rarer, more beautiful species for which Japanese fish cultivators have had little or no success with domestic propagation. A survey of Vietnamese tropical fish has been impossible because of the long hostilities, but Japanese firms feel there are probably a number of currently unknown species in both the fresh and salt waters of Vietnam. Most species, however, are probably common to Thailand, Laos, and adjacent Vietnamese waters. Market acceptance has been established for a large number of these species.

The Japanese importers suggested that they could furnish technical assistance in surveying Vietnam tropical fish potential and in advising on catching, packaging, and specific handling procedures. There is no central trade association so individual company contacts will be necessary. There are no quotas and only a 4 percent duty on aquarium fish.

MILK FISH

This fish is popular for human consumption in Taiwan, but not in Japan. However, the Japanese are very interested in milk fish for tuna bait. Tuna fishing is a very big business with the Japanese domestic fleet and a stable bait supply is critical for profitable tuna operations. The traders felt that milk fish for tuna bait offered a good potential market for Vietnam.

The milk fish would not be used in Japan, but would be picked up by Japanese ships in Vietnam, then held in large quantities on Japanese mother ships to supply the tuna boats. Milk fish is said to be an excellent bait, but efforts to cultivate it in places like the Malagasy Republic have been unsuccessful thus far.

The Japanese market would be a selective one. Vietnam would need to furnish samples to tuna fishing companies. Negotiation would be by private supply contract since no quotas or import duties would be involved.

OTHER SPECIES OF INTEREST TO VIETNAM

Appendix H lists the 33 fish species and five fish products of interest to the Republic of Vietnam Directorate of Fisheries, as submitted to the USDA/AID team for the export potential study in Japan. Detailed information relative to 19 of these has already been presented. These 19 species either 1) represented viable export possibilities for Vietnam in the judgement of the team or 2) were those that Japanese traders and officials considered marketable in Japan now or at some future time.

The species discussed in this section are those that either 1) do not have export potential at this time or 2) are not sufficiently known by the Japanese, making evaluation of export potential impossible.

Quantitative data relative to Japanese imports, exports, and values that where available are shown in Appendix Tables 6 to 15. The text that follows is based on qualitative information obtained by personal interviews with importers and government officials.

Mackerel

Mackerel is imported under strict quota regulations, the domestic price is low ($705 per M.T. average for imports in 1972), an 8 percent import tariff exists, and importers considered it a very poor prospect for Vietnam.

Lizzard Fish

The Japanese consider lizzard fish meat poor quality. It is sometimes used as a raw material for fish paste processing in Japan, but only when the price is very low in relation to other species for this purpose. Although there are no import quotas, importers and others considered it a poor possibility for Vietnam.

Threadfin

Threadfin imports are negligible in Japan since consumers there are unfamiliar with the fish. It is a poor prospect for exporting to Japan.

Hairtail (Ribbon Fish)

The Japanese consider hairtail to be a low-quality product because the meat is dry and low in fat for their tastes. Traders have lost money on imports from the People's Republic of China in the past and would not be interested in Vietnam's product.

Some confusion existed in identifying the exact species in Vietnam. If the preferred species exist, there may be special demand, according to one trader. This point should be explored by the Vietnamese Government and industry leaders.

Snakehead

While very popular with the Chinese, the snakehead is not popular in Japanese households. There is no market for snakehead in Japan, according to traders interviewed.

Catfish

Catfish also are not acceptable to Japanese. This is because of specific religious beliefs.

Blowfish

Blowfish is a special delicacy in Japan, but is poisonous to humans and requires exceptionally careful selection and handling. Japan imports blowfish from Korea under very stringent regulations and inspection.

Importers and government officials felt that Vietnam's climate and distance precluded the species having market potential in Japan. Poisonous alkaloids are stored in the fish liver; heat causes the liver to break down quicker, releasing the poison into the meat. Furthermore, some people believe that the Vietnamese blowfish is more poisonous than similar species caught in the northern waters.

Rice Field Eel

The rice field eel is considered a snake by the Japanese public, and is repulsive to their taste. However, representatives of the Marubeni Company noted that a good market for large smoked eels exists in Holland and Germany. This company has export contacts there for the processed product, and might be interested in importing the raw material if the eels are large and fat. This potential should be investigated further.

Toothed Eel

There was some feeling that the Vietnamese toothed eel could compete in quality with other varieties now on the Japanese market. Importers expressed concern, however, that the relatively low domestic price plus the 4 percent import tariff would preclude its being a profitable venture for Vietnam at this time.

Herring and Herring Roe

Japanese leaders expressed interest in Vietnam's herring and herring roe, if the quality is comparable to that exported by the United States and Canada. Vietnamese officials were fearful that the Vietnam species were of lower quality. The Japanese import quota in effect and the 8 percent import tariff all contribute to making this a questionable possibility.

Manta Ray

The manta ray was also considered to be a poor possibility in Japan since demand is negligible.

Anchovy

Anchovy is very popular in Japan, but the domestic industry is carefully protected, and quotas on imports are strict to the point of all but prohibiting them.

Sardines

Japan is nearly self-sufficient in the production of sardines, and the domestic fishing industry is highly protected. A strict quota in force limits imports from Vietnam.

Sea and Bay Mussels

Sea and bay mussels were also considered to have a very poor market potential for Vietnam's industry. The limited import market is dominated by exports from South Korea.

Shrimp Paste and Cake; Dried Fish

The concensus of those interviewed was that virtually no export potential exists for Vietnamese shrimp paste and cake nor dried fish in Japan.

Fish Sauce

The fish sauce (nuoc mam) which is very popular in Vietnam is also well known by Japanese importers. They indicated that Japanese consumers prefer the fish sauce imported from the People's Republic of China or that produced by local processors. Vietnamese processors of fish sauce should obtain samples of the preferred Japanese product and study Japanese processing methods and costs if they desire to penetrate the market.

Fish Paste and Cake

There is a very good demand for fish paste and fish cake in Japan. Taiwan is a major supplier of imports. The paste or cake preferred in Japanese meals requires no further cooking or processing. It is processed in such a way that little or no fish odor can be detected by housewives. This is primarily because the paste is boiled and pressed on the fishing factory ship very soon after fish are caught. The practice preserves quality since initial freshness and quick on-ship processing are critical to a high quality finished product.

Vietnam currently has no fishing vessels with on-board processing capabilities. The Japanese traders feel that, should Vietnam obtain this type of capability, export demand for fish paste and cake quite possibly could make the product a viable economic opportunity. Importers also indicated that several of the species discussed above, which seem to be in plentiful supply in

Vietnam, make good raw material for cake and paste. They include lizzard fish, sharp toothed eel, sea eel, white drum, and black and yellow croaker.

Grouper and Reef Cod

The grouper and reef cod were not familiar to importers interviewed, thus market potential could not be ascertained at the time.

THE JAPANESE BUSINESS CLIMATE

One overriding factor characterizes Japan's business climate; close economic cooperation between the private economy and the state in regard to the realization of the state's economic policy, which is aligned to balanced growth throughout the entire economy. Capital spending, both in quantitative and qualitative terms, plays a primary role in the growth of any economy. In Japan the volume of capital spending is far above the international average. Since 1960 it has accounted for more than 30 percent of the gross national product (Table 16).

Table 16.--Expenditure categories of Japan's gross national product

Category	1955	1960	1965	1970
	Percent			
Personal consumption expenditures	60.7	55.9	56.8	51.3
Government purchases of goods and services	10.6	8.8	9.3	8.3
Gross private domestic investment	26.1	35.2	32.7	39.2
Exports of goods and services	11.6	11.1	11.2	11.8
Imports of goods and services (subtracted from total)	9.0	11.0	10.0	10.6
	100.0	100.0	100.0	100.0
	Billion dollars			
Actual gross national product	24.6	45.0	90.7	204.8

Source: "Japan, Dynamic Force in the Industrial World," op. cit., pp. 3 and 7.

Table 16 points up the considerable portion of Japan's GNP used for capital projects. These projects were concentrated primarily in the productive sectors of the private economy until the end of the 1960's. The share of investments which are productive in a more indirect way, i.e., those used to improve infrastructure, will undoubtedly increase in the future.

Another outstanding feature of Japan's economic situation is the strong propensity to save. It amounts to no less than 30 percent of disposable personal income. Another unique feature in Japan is the "expansion-oriented" system of financing. It is based on an extensive use of credit that surpasses even the most unrestrained practices in Western economies. This means that banks play a major role in any growth strategy.

Several other characteristics of Japanese business practice deserve attention, as they relate directly to trade policies. There is a unique relationship in Japan between the business world and the state. The private economy does not basically regard the state as a meddler, a rival, or an impediment to business. On the contrary, the state is regarded as a partner which embodies authority of higher rank, demanding loyalty and respect. It generally receives both. In fact, the nation's economic policy relies on this partnership to such an extent that business policy is almost identical with national economic policy.

The will of the state sets certain limits to economic liberalism in Japan. Consequently, the conduct of individual enterprises is determined as much by the overall interests of the nation as by the profit motive, by the need to consolidate or expand the firm's sales volume, or by other private motives.

Nowhere is this phenomenon more evident than in international trade. Complex tariff regulations; regional, global, and firm import quotas by product species; assigning, dividing, and trading quotas and quota basis; etc., are all normal, accepted ways of doing business. It has historically been this way in Japanese business, and old behavior patterns are slow to change in this regard.

A final characteristic underpins much of what has been explained above. The Japanese employee is extremely loyal to his employer; his employer, in turn, is extremely loyal to his government and its policies. These loyalties influence the rigidness with which policies are adhered to, and also explain Japanese buying behavior, which is habitual and very slow to change.

TRADE POLICY AND THE FISH INDUSTRY

Japan has been altering her foreign trade policy after becoming interested in a liberal international trade system. This interest resulted from Japan's strong dependence on other nations for raw materials as well as her increasing dependence on exports for domestic economic growth. Japan reluctantly came to the conclusion that, in order to expand external trade, she must be prepared to liberalize her trade with other nations.

Liberalization really dates from 1960 when Japan began eliminating some of the restrictions in her import policy. In 1963 Japan decided to accept Articles 2 and 11 of the General Agreement on Tariffs and Trade (GATT). By the end of 1972 there were still a number of tariff categories based on the Brussels nomenclature which had not yet been released or liberalized. The list included 28 agricultural and 12 industrial items (various fish types included). Early in 1973 the list was cut from 40 to 33 items, and tariffs were reduced to 80 percent of their 1972 amounts.

However, in Japan, as in most other developed nations, agriculture and fisheries find a protector in government. Rigid, "protectionistic" barriers against "unfair" competition from foreign imports have much political appeal. This is certainly the case for fish imports. Complex sets of import quota restrictions apply to several of the major fish species, as has already been discussed.

MODIFICATION OF QUOTAS

The Ministry of International Trade and Industry officials indicated that quotas for a particular species of fish are modified from time to time, and are not always tied to the semiannual, historically-based demand and supply forecast and allocation method. This they termed "irregular quota modification." Presumably, such modifications are made only in response to changes in basic governmental policy regarding importation of a given species from a given country by a particular association member firm.

A case in point is the recent announcement by Taiyo Gyogyo and Ataka and Co., Ltd., two of Japan's largest firms, that they have submitted a 5-year fisheries development plan centered around shrimp trawling in the Gulf of Tonkin. The plan includes investment in on-shore processing and distribution facilities in North Vietnam. While shrimp and prawn are currently not under a quota, additional fish species that are under quota may be caught in this new type of development. If the companies decide to export these to Japan, they might appeal through their association for added quota if they do not have an unused portion of their own or cannot get one assigned from another firm.

The important point for the Vietnam industry to remember is that one does not simply sell fish products on the open market in Japan, no matter how good the quality of the product, or how competitive its price. For those species under quota, a firm must first locate an importer or trading company with an unfilled quota for that species of fish, then negotiate a contract. The Japanese firm may then obtain the necessary government authorizations to effect completion of the business transaction.

BUSINESS PRACTICES PREFERRED BY JAPANESE IMPORTING FIRMS

A firm wishing to export fish or fish products to Japan, whether the species is or is not under a quota, must first negotiate any transaction through a licensed Japanese importer.

Japanese importing firms prefer to deal with exporting firms from developing countries by engaging in joint capital ventures. There are other methods of doing business, described below, but the joint capital venture is sought out and promoted by the Japanese domestic trading company. Advantages and disadvantages accrue to both parties in any contractual arrangement. They should be analyzed carefully by a potential exporting firm.

An overview of Japan's fish importing philosophy is given in a recent Japan Marine Importers' Association publication.2/ Most of the following material has been extracted from that thorough publication. While this information relates directly to shrimp and prawn, it is also applicable to other fish products.

There were nearly 70 fish importing companies in Japan in 1970; 25 of these imported shrimp and prawn, but only seven were regarded as major importers of the species. Two basic purchase methods were used by the shrimp and prawn importers: 1) cash purchasing, i.e., purchases made over a relatively short period of time, and 2) "tied" development assistance purchasing over the long-term where the supplying country is offered financial and technical aid.

Cash Purchasing

Except for countries such as the Peoples' Republic of China or Russia where prices are fixed by government fiat, the usual purchasing arrangement is an offer made directly from the Japanese importing firm as a cash price or a price for a specified future delivery date. Occasionally, a Japanese importing firm, seeking security in their purchased supply, will grant short-term financing or will pay an advance against future delivery. Some of the importers' associations send technicians to the exporting country to offer short-term (1 or 2 months) technical assistance. The primary emphasis in such assistance is to help the exporting firms improve their processing methods and to standardize grading procedures.

When this buying method is used, the product normally carries the brand name of the firm exporting to Japan. However, if financial or technical assistance is given, it is common to ship a standardized product under the Japanese importer's brand name.

Tied Purchasing

Three types of "tied" development assistance are practiced by Japanese importing firms; all are characterized as joint capital ventures. The three types are: 1) investment in fishing boats, motors, gear, refrigeration, and on-board processing equipment, coupled with assistance from experienced masters and fishing crew and perhaps financing and construction of shore facilities, particularly refrigerated storage and modern processing plants; 2) investment in shore facilities only, particularly handling, processing, and storage equipment; and 3) financial aid and technical assistance only.

2/ "Reference Material from the Second Frozen Shrimp Seminar," Japan Marine Importers' Association, Tokyo, Japan, 1969.

These are growing very rapidly in the Japanese fisheries importing system. One study estimated that 30 percent of Japan's shrimp imports in 1969 were purchased through some form of joint venture in the exporting country. This was estimated to grow to where 70 percent of the 1980 shrimp imports will be under this arrangement.

The advantages of "tied" development assistance for the Japanese importing firms are several. Quality of the products can be improved at the source and maintained to the point of consumption. The cost of the product is reduced because of superior technology and economies of scale, thus saving foreign exchange and keeping profits "at home" in Japan. Flexibility in buying is facilitated; supplies and deliveries can be managed according to Japanese domestic needs. A firm can establish its own brand name and maintain its image. The exporting country becomes a market for Japanese goods when Japan gives financial aid or establishes a joint venture (i.e., reciprocity agreements can be negotiated). New fishing grounds can be penetrated more easily and supplies of raw products guaranteed.

The percentage of Japanese versus local capital invested in joint venture shrimp agreements is shown in Table 17. The present joint-capital venture law in the Republic of Vietnam requires that 51 percent ownership be by Vietnamese.

Table 17.--Ratios of Japanese and local capital invested in shrimp joint venture enterprises, 1969

Venture partner	Japanese capital investment	Local capital investment
	Percent	
Indonesia	100.0	0.0
Indonesia	90.0	10.0
Indonesia	80.0	20.0
Thailand	66.6	33.4
Africa	60.4	39.6
Tanzania	50.0	50.0
Guatemala	49.0	51.0
Malagasy Republic	48.7	51.3
New Zealand	24.5	75.5
Australia	80.0	20.0
Australia	55.0	45.0
Australia	49.0	51.0

Source: "Reference Material from the Second Frozen Shrimp Seminar," op. cit., p. 50.

A final indication of the effect of Japanese joint venture activity on exporting countries' supplies of shrimp for exportation is shown by the data in Table 18. The number of firms in each country exporting shrimp to Japan is shown, followed by the total quantity of shrimp exported by those firms in 1969 and the quantity sent to Japan.

Table 18.--Number of firms exporting shrimp to Japan by selected countries in Asia, total quantity exported and quantity destined for Japan, 1969

Country	Number of exporting firms	Quantity exported	
		Total	To Japan
		Metric tons	
Pakistan	50	3,450	2,646
Iran	1	708	708
Thailand	2	6,509	6,395
Singapore	1	132	132
Malaysia	7	1,651	1,651
Sabah	5	1,319	1,076
India	45	8,783	2,864
Philippines	5	99	99
Indonesia	12	2,604	2,604
Total	128	25,255	18,175
Percent of total	--	--	71.9

Source: "Reference Material from the Second Frozen Shrimp Seminar," op. cit., p. 50.

Often the joint capital venture looks attractive to a developing country, since needed equipment, technology, and financing of facilities are usually involved in the venture. These are assets which the developed partner has and is willing to share with the developing partner in return for control of the latter's raw material resource. The technical assistance provided becomes particularly important in a case such as the Japanese market where sanitation regulations, import quota considerations, and other import licensing and facilitating functions can best be handled by the Japanese partner.

An important consideration, however, is that once a joint venture is agreed to and implemented, the developing country's raw material is "locked in" for export to the partner's country. There is less flexibility for selling on the world market if prices or conditions are temporarily unfavorable in the developed country that supplied the capital for the joint venture.

In a contractual arrangement with an associate company from the importing country, it is helpful to have ownership and decisionmaking remain under control of the developing country's exporting firm. That way, the exporting firm is free to negotiate more favorable contract terms at the end of any contractual period, either with his associate firm in the importing country or with other firms in that or other importing countries.

IMPORT TARIFFS AND QUOTAS FOR SELECTED FISH PRODUCTS

A few examples of import tariffs and quotas for specific products will point up the complexity of the Japanese system.

CUTTLEFISH

The basic ad valorem general tariff on fresh, chilled, or frozen cuttlefish imports was 10 percent in 1972 but was reduced to 8 percent in mid-1973. Import quota restrictions still effectively limit competition in cuttlefish trade, however. For example, the total import quota for cuttlefish in 1973 was established at 23,800 metric tons. This includes fresh, chilled, and frozen products as well as processed products (i.e., dried, canned, salted, etc.).

Assume for purposes of explanation that the 1974 import quota for fresh, chilled, or frozen cuttlefish has been established by the governmental and importing entities at 25,000 M.T. How will this quota be divided? In actuality, there are no "official" guidelines published; there is no formula available for inspection by the public or by an interested "outside party." Quotas are established by private negotiations between the Japanese parties having business interests involving that commodity and the respective government officials who interpret economic, domestic, and foreign policy.

In fact, most of the cuttlefish to be imported by Japan in 1974 will come from a selected few countries and be handled by a limited number of Japanese trading firms. This has been agreed to and will be enforced. The arrangement is based on some historic data, but in effect is more closely tied to domestic policy considerations. Included may be considerations such as bilateral trade agreements existing between Japan and the exporting countries; reciprocity arrangements; protection of domestic fishery firms, including their joint capital ventures in the exporting country; sea freight shipping contracts in force; and others.

SQUID

The total import quota for squid in 1972 was 9,000 M.T. The quota might have been divided as follows:

4,000 M.T. allocated to importers,
4,000 M.T. allocated to four major squid processing firms, and
1,000 M.T. allocated to Japanese companies having fishery joint capital ventures overseas.

The allocations are then further subdivided. The 4,000 M.T. allocated to the four major processing firms might be reallocated as follows:

Japan Squid Processors' Association -	1,400 M.T.
Japan Marine Processors' Association -	1,300 M.T.
Japan Farmers' Cooperative Association -	900 M.T.
Japan Canners' Association -	400 M.T.
	4,000 M.T.

By private agreements, the quotas are allocated to individual firms within a given association; this information is not made public, but is agreed to by the association officers, the Fisheries Agency of the Ministry of Agriculture and Forestry, and the Ministry of International Trade and Industry. Individual company quotas can be traded, purchased, and/or reassigned. If one company has an unfilled quota assigned, a second company can ask it to import under that quota to fill the second company's contract. Again, information of this type is held in strict confidence and is very difficult to obtain. We assume that the Japan Ministry of International Trade and Industry has the power to reassign quotas among associations if they remain unfilled in a given semi-annual period also, but we have no factual proof to substantiate the hypothesis.

TRANSPORTATION AND IMPORT COSTS

Four shipping companies, three Japanese and one from Holland, control all ocean transportation from Saigon to Japan. The three Japanese lines mutually agree on charges and arrange a common schedule so that two Japanese freighters dock at Saigon each month. One of the companies, Kawasaki Lines, maintains a one-man clearing office in Saigon.

Vietnam, due to the war, has not been included in the standard freight conference, thus published export rates are not available and rates must be negotiated. The only recent exports to Japan of any significance involve scrap metal and shrimp. The charge for frozen shrimp by the three cooperating Japanese lines is $61.70 per M.T. ("free in and out," or f.i.o.) plus a 10 percent surcharge for war risk. Under f.i.o., the importer pays the additional cost of handling, loading, and unloading. The comparable rate for reefer storage (temperature maintained at 35-40° F) is $42.60 per M.T. (f.i.o.) plus the surcharge, and for dried shrimp, $24 per cubic meter of space plus the surcharge. These rates have been in effect since August 1, 1971, and apply to all major Japanese ports.

Interviews with the shipping companies revealed that rates may be increased by about 10 percent in the next year. They also indicated that the 10 percent war risk surcharge will soon be dropped, but replaced with a 10-14 percent currency surcharge in anticipation of an upward revaluation of the yen. The revaluation of the yen occurred while the USDA/AID/Vietnamese team was in Japan in February 1973. The shipping companies' executives noted that the rates from Vietnam were relatively high, but that there had been very little export traffic and, consequently, costs would be high. One company indicated a "political" rate structure might be developed for Vietnam to encourage trade and make Vietnamese products more competitive in Japanese markets.

Air freight rates have not been established for marine products from Saigon to Japan. Both Air Vietnam and China Airline quoted the same "general cargo" rate that is applicable in the absence of specific rates. There is a minimum charge of $10.18 per shipment. For shipments under 45 kg., the rate is $2.04 per kg.; for larger shipments it is $1.53 per kg.

Additional importation costs will be incurred in Japan. The cost categories and applicable charges for marine products are:

1. Insurance--varies from 0.3 to 0.5 percent of c.a.f. (cost and freight) value.

2. Import duty (tariff)--4 to 8 percent of the c.i.f. value on most marine species.

3. Interest on investment (optional)--Japanese bank rates are currently 2.3 percent for 120 days.

4. Letter of credit charge (optional)--0.25 percent.

5. Handling goods at the customs office--about $37.40 per M.T. This is a shipper's handling fee and includes off-loading from the ship, putting the goods through customs, and placing them in the warehouse.

6. Handling in and out of refrigerator (optional)--between $3.85 and $6.00 per M.T.

7. Storage in the refrigerator (optional)--about $5.00 to $5.07 per M.T. for 2 weeks.

As noted above, some of these costs are optional, depending upon the services required.

TYPICAL JAPANESE MARKETING MARGINS FOR IMPORTED MARINE PRODUCTS

A number of interviews were held with importers, traders, and wholesalers relative to the usual mark-ups and marketing margins for imported marine products in Japan. The following information probably covers all but a few specialized items or situations in normal trading.

A: Cost-insurance-freight price (c.i.f.) at the Japan port plus duty and customs clearance charge.

B. A x (from 10 to 20 percent) for importers.

C: B x (from 20 to 30 percent) for five big wholesalers.

D: C x (from 20 to 60 percent) for secondary wholesalers and dealers outside the fish market.

APPENDIX A.--THE STANDARD FOR PRAWN SHIPMENTS INTO JAPAN 1/

(Scope)

1. This standard shall apply to frozen (*1) shrimps (prawns) with shell and frozen headless shrimps (prawns) with shell imported to Japan.

   *1: Term "frozen" is taken to include such terms as "deep-frozen" and "quick frozen."

(Standard)

2. The standard for imported frozen shrimps (prawns) with shell shall be as follows:

Items	Requirements
Quality requirement	Marked result under the provisions of marking specification shall be above average of 3.0 mark and in no single provision there shall be 1 mark.
Temperature	The temperature shall be below (-10)°C at the internal centre of the product.
Net Weight	The net weight of the product shall not be less than the labelled one.
Packaging materials	Packaging materials shall be hygienic and strong enough to protect the product from any of the damages caused by external force.
Labelling	The labelling shall be true and correct to represent the name and nature of the product.
Extraneous substance	There shall be no extraneous substance both surface and inside the product.
Freshness	The product shall not be decomposed. In the case that is impossible to judge the freshness only by sensory assesment, a series of chemical examination are conducted by the method specified in following 1. In this case, volatile basic nitrogen (VB-N) content of the sample shall be below 30 mg. per 100 g.
Bacteria plate count	Below 100,000 per 1g. of the sample by the method specified in following 1.
E. coli M.P.N.	Negative per 100 g. of the sample by the method specified in following 1.
Size	The size of shrimps (prawns) shall conform to the size assortment labelled or contracted.

1/ Japan Marine Products Importers Association, Tokyo, Japan, 1970.

1. Determinations of volatile basic nitrogen content, bacteria plate count and E. coli M.P.N. are made respectively by the following methods.

   (a) Volatile basic nitrogen (VB-N): Edward conway's micro-diffusion method.
   (b) Bacteria plate count: Standard plate count (SPC) method at 37°C.
   (c) E. coli M.P.N.: E.C. test method.

2. Examination of the net weight is made as follows:

   (a) Thawing: A block of the sample is put in a bag made of water-proof material such as polyethylene film. The bag is soaked in flowing or still potable water until each of the individual shrimps (prawns) can be easily separated from the block.

   (b) Weighing: The bag is emptied on to a sieve with mesh appropriate to the size of shrimps (prawns). After draining for about 2 minutes weigh the sieve. The temperature of the internal centre of the product just before and after thawing, the temperature of the thawing water and the duration of thawing shall be examined.

3. Examination of the size assortment is made as follows:

   Weight a unit of 1 lb. (454 g.) of shrimps (prawns) at random from the sample and examine:

   (a) The conformity of the number of shrimps (prawns) consist of 1 lb. to the contracted number.

   (b) The conformity of the weight of each of the individual shrimps (prawns) consist of 1 lb. to the weight specified in table 1.

Appendix table 1.--Relationship between count of shrimp per pound and individual weight

No. of shrimps per lb.	Wt. of each shrimp
10 or less	g. 43 or more
11 - 15	29 - 43
16 - 20	22 - 29
21 - 25	18 - 22
26 - 30	15 - 18
31 - 35	13 - 15
36 - 40	11 - 13
41 - 50	9 - 11
51 or more	9 or less

3. Specification for marking

Provisions	Specification for marking	Mark
Appearance	1. The shrimp (prawn), whole, which holds the original form without being split or broken. The shrimp (prawn), headless, which has the head part ("carapace" in technical term) completely removed, and holds the good form without being split or broken.	5

	2.	The shrimp (prawn), whole, which holds the fairly good form, or being slightly split or broken. The shrimp (prawn), headless, has the head part ("carapace" in technical term) almost completely removed, holds the fairly good form, or being slightly split or broken. According to the degree of the above mentioned defects.	4-3
	3.	The shrimp (prawn), whole, which does not hold the good form, or being split or broken. The shrimp (prawn), headless, which leaves a part of the head ("carapace" in technical term; unremoved, does not hold the good form, or being split or broken.	2
	4.	The shrimp (prawn), whole, which is deformed conspicuously, or being split or broken conspicuously. The shrimp (prawn), headless, which leaves the greater part of the head ("carapace" in technical term) unremoved, or being deformed, split of broken conspicuously.	1
Colour	1.	The shrimp (prawn), which keeps such colour as characteristic of particular species of shrimps (prawns) without any sign of the grayish white caused by dehydration, or other change of colour.	5
	2.	The shrimp (prawn) which keeps the fairly good colours or gives the slight sign of the grayish white caused by dehydration, or other change of colour. According to the degree of the above mentioned defects.	4-3
	3.	The shrimp (prawn) which does not keep the good colour, or gives the sign of the grayish white caused by dehydration, or other change of colour. The shrimp (prawn) which possesses dark colour in the tail part.	2
	4.	The shrimp (prawn) which is discoloured conspicuously, or gives conspicuous sign of the grayish white caused by dehydration, or other change of colour.	1
Flavour and odour	1.	The shrimp (prawn) which keeps the good original flavour, being free from such odours as of hydrogen sulphide, ammonia, trimethylamine or any other else that is not characteristic of particular species of shrimps (prawns).	5

	2.	The shrimp (prawn) which keeps the fairly good flavour, or almost being free from such odours as of hydrogen sulphide, ammonia, trimethyl-amine or any other else that is not characteristic of particular species of shrimps (prawns). According to the degree of the above mentioned defects.	4-3
	3.	The shrimp (prawn) which does not keep the good flavour, or gives such odours as of hydrogen sulphide, ammonia, trimethylamine or any other else that is not characteristic of particular species of shrimps (prawns).	2
	4.	The shrimp (prawn) which keeps hardly any flavour, or gives conspicuously such odours as of hydrogen sulphide, ammonia, trimethylamine or any other else that is not characteristic of particular species of shrimps (prawns).	1
Tissue or texture	1.	The shrimp (prawn) which is reasonably tight and elastic in its tissue without any sign of the sponge-like or other abnormal tissue that is not characteristic of particular species of shrimps (prawns).	5
	2.	The shrimp (prawn) which is fairly tight and elastic in its tissue, or gives slight sign of the sponge-like or other abnormal tissue that is not characteristic of particular species of shrimps (prawns). According to the degree of the above mentioned defects.	4-3
	3.	The shrimp (prawn) which lacks the reasonable or fair tightness and elasticity in its tissue, or gives sign of the sponge-like or other abnormal tissue that is not characteristic of particular species of shrimps (prawns).	2
	4.	The shrimp (prawn) which is too soft in its tissue, or gives conspicuous sign of the sponge-like or other abnormal tissue that is not characteristic of particular species of shrimps (prawns).	1
Uniformity	1.	The block of shrimps (prawns) which does not mix any different species or "softshell" caused by exuviation.	5
	2.	The block of shrimps (prawns) which mixes hardly any different species or "softshell" caused by exuviation. According to the mixed degree of the different species or "softshell".	4-3

	3. The block of shrimps (prawns) which mixes different species or "softshell" caused by exuviation.	2
	4. The block of shrimps (prawns) which mixes different species or "softshell" caused by exuviation conspicuously.	1
Undesirable substances	1. The block of shrimps (prawns) which is free from the splintered shell, spines, legs, or any other undesirable substances separated from the body of the shrimps (prawns).	5
	2. The block of shrimps (prawns) which is fairly free from the splintered shell, spines, legs, or any other undesirable substances separated from the body of the shrimps (prawns). According to the mixed degree of the above mentioned undesirable substances.	4-3
	3. The block of shrimps (prawns) which contains the splintered shell, spines, legs, or any other undesirable substances separated from the body of the shrimps (prawns).	2
	4. The block of shrimps (prawns) which contains the splintered shell, spines, legs, or any other undesirable substances separated from the body of the shrimps (prawns), conspicuously.	1
Glaze (In case that such packagings as will insure against dehydration are used, the glaze will not be necessary)	1. The glaze is clean, and thick and even enough to prevent dehydration.	5
	2. The glaze is clean, and fairly thick and even. According to the degree of the above mentioned glazed conditions.	4-3
	3. The glaze is clean, but there is an area without glaze on the surface of the block.	2
	4. The glaze is not clean, or there is hardly any area glazed on the surface of the block.	1

(Sampling and inspection)

4. The inspection is conducted under the provisions of marking specification, basing upon the samples which are drawn at random at the under-specified sampling rates in proportion of the sizes of lots which undergo the inspection.

Any single unit of the sample (*2) shall be regarded as defective if the unit does not meet the quality requirement specified in the standard (2), and any lot shall be classified as "passed" if defective unit count does not exceed the count specified in the column A (passed) in the following score tables and there is no major defect (e.g. The temperature, The labelling, The extraneous substance and The freshness) in the sample.

*2: A single unit of the sample is taken to the minimum package in the sample.

Appendix table 2.--Shrimp table for judgement (in case the weight of a unit is more than 1 kilogram)

Size of lot	Count of samples	Count of defective unit for judgement	
		A (passed)	B (defective)
1 - 10	All	0	1
11 - 100	10	1	2
101 - 500	15	1	2
501 - 1,000	25	2	3
1,001 - 5,000	35	3	4
More than 5,001	50	4	5

Appendix table 3.-- Shrimp table for judgement (in case the weight of a unit is below 1 kilogram)

Size of lot	Count of samples	Count of defective unit for judgement	
		A (passed)	B (defective)
35 - 1,000	35	3	4
1,001 - 5,000	50	4	5
5,001 - 10,000	75	6	7
10,001 - 20,000	110	8	9
20,001 - 50,000	150	10	11
More than 50,001	225	14	15

APPENDIX B.--SELECTED JAPANESE FISH DEMAND RELATIONSHIPS

The estimates of projected Japanese demand for marine products by 1980, (Appendix Table 4), were compiled as the result of the multiple regression analysis summarized in Appendix Table 5. This analysis also indicates several important relationships between demand for various types of marine products, per capita consumption expenditure, and the prices of the products.

Since the regression equations are expressed in logarithmic form, the coefficients of the expenditure and price variables represent elasticities of demand with respect to consumption expenditure and price. For example, the coefficient of elasticity of demand with respect to consumption expenditure for medium and high quality fresh fish is 0.919, while the coefficient of elasticity of demand with respect to price is -1.166. These coefficients are of interest to Vietnam because they indicate the degree to which the Japanese demand for these products will be influenced by changes in consumption expenditure and prices of the products.

Thus, a 10 percent increase in per capita consumption expenditure will imply a 9.19 percent increase in the demand for medium and high quality fresh fish. Similarly, a 10 percent decrease in the prices of these products will imply an 11.66 percent increase in quantities of fish demanded.

The elasticity of demand with respect to consumption expenditure is particularly important in determining trends in Japanese demand. Growth in per capita consumption expenditure is more closely related to growth in per capita income than it is to any other variable. The well-founded expectation that growth in Japanese per capita income will continue to be substantial indicates further expansion in the Japanese market for marine products.

Appendix table 4.--Japan: Estimates of projected demand for marine products, 1980

Commodity	Demand	Production	Imports
	Thousand metric tons		
Higher quality fish and shellfish, edible	3,563	2,587	976
Other fish and shellfish	9,386	7,859	1,527
Edible	5,762	5,098	664
Non-Edible	3,624	2,761	863
Total	12,949	10,446	2,503
Seaweed	778	754	24
GRAND TOTAL	13,727	11,200	2,527

SOURCE: Japanese Fisheries Association, Distribution Research Committee, June, 1972.

Appendix table 5.--Japan: Regression equations used in projections of demand for marine products

Product	Demand function	R	Years in data base
Fresh Products			
In schools	Log Q = 3.327 - 0.150 log Y - 0.354 log P	0.816	'55 - '70
Medium & high quality	Log Q = 3.899 + 0.919 log Y - 1.166 log P	0.867	'55 - '70
Shellfish	Log Q = 0.103 + 0.554 log Y	0.732	'63 - '70
Salted, dried			
Medium and high quality	Log Q = 0.346 + 0.837 log Y - 0.218 log P	0.941	'55 - '70
Others	Log Q = 3.550 + 0.147 log Y - 0.539 log P	0.631	
Paste	Log Q = 3.147 + 0.857 log Y - 0.9245 log P	0.989	'63 - '70
Canned	Log Q = 11.197 + 0.551 log Y - 3.043 log P	0.518	'55 - '70

NOTE: Y = Per Capita Consumption Expenditure.
P = Price.
Q = Quantity demanded.
R = Coefficient of correlation.

SOURCE: Japanese Fisheries Association, Distribution Research Committee, June 1972.

APPENDIX C.--IMPORT AND EXPORT STATISTICS FOR JAPANESE FISH AND FISH PRODUCTS, 1967-1972

Appendix table 6.--Japan: Quantity and value of marine product imports, 1967-1972

Commodity	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
	Metric tons						Thousand dollars					
Whale meat, fresh, chilled, frozen	28,564	11,158	12,539	15,396	17,837	18,277	7,467	2,106	2,445	3,816	5,517	6,336
Jellyfish, dried salted smoked	6,398	2,816	2,647	3,901	4,686	5,331	3,436	2,020	4,068	7,793	6,785	7,121
Sea-urchins roe, dried, salted, smoked	1,446	1,009	875	963	1,430	1,059	1,731	1,326	1,237	1,582	2,646	2,992
Trepang, jellyfish, or sea-urchin (including roes) prepared, preserved	5	5	16	15	19	20	7	7	23	33	46	55
Aquarium fish	114	106	105	76	61	50	2,583	3,409	3,648	3,128	2,673	2,432
Fry for fish culture (excluding aquarium fish)	1	3	61	132	318	214	11	65	1,884	6,076	8,192	9,213
Live roes of herring, cod scad,	---1/	---	---	---	1	3	---	---	---	---	1	0
Other live fish	2,296	2,540	2,607	3,980	6,273	9,640	999	1,322	2,015	6,610	11,182	28,795
Skipjack & bonito, fresh, chilled, frozen	16,184 2/	28,964 1/	34,970 1/	5,329	17,597	5,958	5,793	10,638	13,782	1,488	5,395	1,990
Yellowtail, fresh, chilled, frozen	469	1,382	1,752	1,451	574	856	357	754	1,242	1,153	554	920
Herring, fresh, chilled, frozen	3,372	4,277	7,833	6,646	5,033	7,621	552	717	1,478	1,454	1,480	3,355
Salmon, fresh, chilled, frozen	1,483	2,232	8,378	5,213	5,686	2,224	1,165	2,023	10,497	5,530	6,808	3,283
Spanish mackerel, fresh, chilled, frozen	9,417	8,605	9,740	7,315	8,963	10,326	4,043	3,763	3,773	3,356	5,080	7,277
Common sea bass, fresh, chilled, frozen	101	213	233	327	129	81	29	42	45	63	28	23
Hairtail, fresh, chilled, frozen	4,605	2,309	3,327	979	959	1,251	887	450	925	251	250	486

1/ Dash indicates no entry for the year. It is possible that the commodity is grouped under a different entry.
2/ Includes skipjack, bonito, albacore and all species of tuna.
SOURCE: Japan: Exports and Imports, 1967-1972, Japan Tariff Association.

Continued--

Japan: Quantity and value of marine product imports, 1967-1972--Continued

Commodity	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
	Metric tons						Thousand dollars					
Croakers, fresh, chilled, frozen	5,013	3,392	1,753	1,952	2,357	3,043	1,086	745	652	1,066	1,545	2,177
Sea breams, fresh, chilled, frozen	1,556	1,146	2,742	2,727	2,210	3,787	516	368	708	1,289	1,390	3,165
Cod, scad, etc., frozen, chilled, frozen	---	---	---	65	1,636	12,585	---	---	---	6	298	4,066
Albacore, fresh, chilled, frozen	---	---	---	3,232	4,890	543	---	---	---	1,863	2,985	441
Yellowfin tuna, fresh, chilled, frozen	---	---	---	7,180	7,008	8,430	---	---	---	4,449	5,172	8,426
Bluefin tuna, fresh, chilled, frozen	---	---	---	342	451	1,001	---	---	---	206	453	1,432
Other tuna, fresh, chilled, frozen	---	---	---	19,110	19,114	21,659	---	---	---	9,484	10,942	13,290
Swordfish, fresh, chilled frozen	---	---	---	16,235	15,883	15,251	---	---	---	7,705	8,496	8,817
Shark, fresh, chilled, frozen	---	---	---	3,104	1,680	1,846	---	---	---	776	497	524
Hard roes of cod, herring fresh, chilled, frozen	---	---	---	1,514	1,927	1,830	---	---	---	913	1,207	1,269
Other fish, fresh, chilled, frozen	13,308	21,036	20,957	10,044	19,688	25,953	3,620	5,896	6,226	3,772	8,856	12,388
Salmon roes, salted, dried, smoked	2,765	5,006	3,097	5,292	5,449	4,852	7,504	14,990	10,254	17,790	20,924	25,319
Cod roes, salted, dried, smoked	1,033	1,019	660	295	528	722	757	777	388	135	357	502
Herring roes on the tangles, salted, dried, smoked	---	---	---	69	357	220	---	---	---	285	1,688	946
Other hard roes of herring, salted, dried, smoked	430	418	499	595	788	7,378	1,518	1,207	1,818	2,301	3,855	33,565

Continued--

Japan: Quantity and value of marine product imports, 1967-1972--Continued

Commodity	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
	Metric tons						Thousand dollars					
Other fish roes, salted, dried, smoked	26	20	40	82	153	158	27	18	63	390	916	777
Herring, salted, dried, smoked	---	---	---	1,604	0	310	---	---	---	388	0	282
Other fish, salted, dried	1,572	916	1,318	658	620	694	520	755	1,475	654	623	768
Other fish, smoked	16	12	1	36	5	14	27	10	2	50	11	41
Shrimps, prawns, & lobster live	0	7	4	80	59	59	1	32	23	356	450	407
Shrimps, prawns, & lobster fresh, chilled, frozen	44,466	35,204	48,886	57,146	78,874	88,120	79,732	78,079	121,748	137,026	212,560	296,761
Shrimps, prawns, & lobster salted, dried	157	145	190	145	235	307	70	63	80	152	262	351
Cuttlefish & squid, live, fresh, chilled, frozen	5,166	8,503	8,458	15,225	21,330	27,844	1,563	2,585	3,328	10,967	15,892	21,273
Cuttlefish, & squid, salted dried	1,606	4	---	2,213	1,235	1,259	1,317	1	---	3,046	1,951	2,476
Octopus, live, fresh, chilled, frozen	---	---	36,236	35,640	64,445	63,930	---	---	7,379	10,546	33,320	32,885
Crab, live, fresh, chilled frozen	---	---	---	897	1,433	2,519	---	---	---	840	1,555	3,382
Abalone, live, fresh, chilled, frozen	---	---	---	735	622	1,050	---	---	---	1,260	1,386	3,064
Hard clam, live, fresh, frozen, chilled	---	---	---	5,612	10,194	15,372	---	---	---	2,612	4,558	6,892
Hard clam, salted, dried	---	---	---	24	6	94	---	---	---	20	7	162
Scallops, fresh, chilled, frozen	---	---	---	15	61	226	---	---	---	19	110	626
Other crustacea & molluscs fresh, chilled, frozen	49,251	44,348	6,048	3,355	6,069	8,100	11,109	10,927	2,758	2,259	4,850	7,936
Other crustacea & molluscs salted, dried	59	230	240	130	185	188	57	194	149	67	85	202

Continued--

Japan: Quantity and value of marine product imports, 1967-1972--Continued

Commodity	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
	Metric tons						Thousand dollars					
"Ikura"	---	---	---	---	77	92	---	---	---	---	463	828
Caviar & substitutes	355	283	245	95	35	49	939	683	1,231	768	300	615
Sardines, canned in oil	---	---	---	168	154	110	---	---	---	239	231	176
Other sardines, canned	1,472	755	932	344	95	6	527	308	465	157	54	6
Salmon, canned	1	1	28	4	2	11	5	4	35	7	10	18
Mackerel, canned	---	---	---	2	4	3	---	---	---	2	3	3
Hard roes of cod & herring canned	---	---	---	22	20	32	---	---	---	20	18	32
Other hard roes, canned	---	---	---	0	2	---	---	---	---	1	2	---
Bonito, canned	---	---	---	---	---	1	---	---	---	---	---	1
Other fish, canned	79	92	125	120	129	274	73	71	94	128	159	368
Other hard roes, prepared	---	---	---	0	6	---	---	---	---	0	8	---
Bonito, boiled & dried	119	230	193	621	1,646	848	186	332	210	731	2,090	991
Other fish preparations	17	9	56	124	215	495	13	9	148	469	491	1,148
Abalone, canned	---	---	254	411	696	737	---	---	416	797	1,846	2,356
Other crustacea & molluscs canned	499	377	79	160	196	396	729	536	116	671	229	666
Other crustacea & molluscs smoked	394	---	5	4	---	0	134	---	3	8	---	1
Cuttlefish, prepared, excluding smoked	1,827	541	728	2,085	2,832	4,529	2,257	646	851	3,742	6,564	11,193
Other crustacea & molluscs, prepared, excluding canned	4,513	5,229	3,323	4,545	7,324	8,919	1,329	1,659	1,434	2,225	4,069	5,902
Edible seaweeds, in thousands of sheets	(540,722)	(579,971)	(376,676)	(476,652)	(441,188)	(76,593)	10,901	16,537	17,892	8,607	3,874	2,535
"Hijiki" seaweed	886	1,089	1,563	1,133	1,595	1,891	399	395	453	997	1,914	2,483
Other edible seaweeds	546	1,383	824	2,215	3,026	1,317	339	366	150	568	937	603
Fish meal and flour	86,780	150,228	107,993	94,662	21,657	56,815	13,519	20,217	16,442	18,581	4,099	10,779
Whale meal and flour	---	---	---	11,747	9,562	10,914	---	---	---	1,456	1,119	1,373

Continued--

Japan: Quantity and value of marine product imports, 1967-1972--Continued

Commodity	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
	Metric tons						Thousand dollars					
"Bekko"	32	38	41	37	36	42	516	644	797	742	903	1,277
Tortoise shell	0	1	2	4	4	11	1	6	3	10	39	58
Coral	25	45	85	37	12	8	247	241	435	222	198	112
Shell of pinctada maxima	310	244	340	499	273	406	213	179	272	514	228	353
Shell of pinctada margaritifera	230	289	303	466	296	311	169	265	298	641	309	330
Shell of tectus niloticus	1,482	1,676	2,262	2,583	2,064	2,221	324	347	543	900	695	937
Shell of tectus pyramis	25	---	---	---	---	---	3	---	---	---	---	---
Other shells	10,976	4,356	5,099	4,244	2,373	4,026	4,549	1,533	2,142	1,836	1,013	1,744
Shell wastes	116	153	342	347	471	354	14	22	44	62	65	69
Fish wastes	36	---	3	60	49	93	16	---	2	15	45	86
Natural sponges, more than Y3600 per kg c.i.f.	20	29	28	29	15	15	590	843	829	823	315	452
Natural sponges, less than Y3600 per kg c.i.f.	11	7	9	6	6	6	37	33	47	39	36	42
Fertile fish eggs for hatching	0	1	0	0	0	0	1	1	3	4	1	2
Artemia salinas eggs	12	5	9	13	6	19	31	40	51	77	70	135
Digenea	194	60	80	68	45	0	157	51	64	62	48	0
Agar-Agar, "hoso-kanten"	211	141	195	176	254	248	1,307	529	713	611	856	772
Other agar-agar	502	124	424	240	300	509	2,964	642	1,449	895	1,010	2,313
"Tengusa" seaweed	---	---	---	927	416	589	---	---	---	317	166	238
Other seaweed for agar manufacture	12,373	6,941	8,327	6,444	5,897	6,328	7,118	2,268	2,490	1,827	1,602	2,320
"Funori"	61	128	217	58	243	295	13	43	78	28	124	188
Other seaweed	2,525	2,304	3,178	2,366	3,829	4,241	404	353	628	378	669	865
Fish oil	2,993	5,565	6,615	352	448	354	498	644	920	83	105	53
Whale oil	13	18	1,913	1,297	1,704	1,300	6	8	196	188	397	500
Cod liver oil	5	20	---	---	---	---	2	9	---	---	---	---
Shark liver oil	372	692	542	435	460	436	316	516	430	340	531	604
Other liver oils	6	2	10	27	2	5	3	3	4	26	1	3
Spermaceti	53	61	49	59	94	39	36	40	31	41	81	35
Loose pearls, unworked	0	0	0	0	0	0	1,371	2,197	2,198	3,283	2,937	3,448
Half pearls	1	3	3	1	2	2	688	1,805	1,942	739	657	771
Other pearls, not set or strung	0	0	0	0	0	0	146	19	16	74	217	897
TOTAL	330,951	370,145	362,627	386,313	407,630	491,552	191,574	200,333	260,678	319,976	445,596	629,541

Appendix table 7.--Japan: Composition of marine product imports, 1967-1972

Commodity	1967				1968				1969			
	Quantity	% Total quantity	Value	% Total value	Quantity	% Total quantity	Value	% Total value	Quantity	% Total quantity	Value	% Total value
	M.T.	Percent	Thousand dollars	Percent	M.T.	Percent	Thousand dollars	Percent	M.T.	Percent	Thousand dollars	Percent
MARINE FISH	73,653	22.26	38,911	20.31	88,786	23.99	52,709	26.31	105,190	29.00	68,386	26.23
Live	2,411	0.73	3,593	1.88	2,649	0.72	4,796	2.39	2,773	0.76	7,547	2.90
Fresh, chilled or frozen	55,508	16.77	18,048	9.42	73,556	19.87	25,396	12.68	91,685	25.28	39,328	15.08
Salted, dried or smoked	13,686	4.14	15,520	8.10	11,216	3.03	21,103	10.53	9,137	2.52	19,305	7.40
Canned, other preparations	2,048	0.62	1,750	0.91	1,375	0.37	1,414	0.71	1,595	0.44	2,206	0.85
CRUSTACEA AND MOLLUSCS	107,938	32.61	98,298	51.31	94,588	25.55	94,722	47.29	104,442	28.81	138,285	53.05
Live, fresh, chilled frozen	98,883	29.87	92,405	48.24	88,062	23.79	91,623	45.74	99,632	27.48	135,236	51.88
Smoked, dried or salted	2,216	0.67	1,578	0.82	379	0.10	258	0.13	435	0.12	232	0.09
Canned, other preparations	6,839	2.07	4,315	2.25	6,147	1.66	2,841	1.42	4,375	1.21	2,817	1.08
WHALE MEAT	28,564	8.63	7,467	3.90	11,158	3.01	2,106	1.05	12,539	3.46	2,445	0.94
SEAWEED	17,104	5.17	23,445	12.24	12,110	3.27	21,133	10.54	14,728	4.06	23,853	9.15
Dried lavers	(540,722) 1/	---	10,901	5.69	(579,971) 1/	---	16,537	8.25	(376,676) 1/	---	17,892	6.86
Other seaweed and by-products	17,104	5.17	12,544	6.55	12,110	3.27	4,596	2.29	14,728	4.06	5,961	2.29
MEAL, OILS, SHELL, PEARLS, ETC	103,692	31.33	23,453	12.24	163,493	44.18	29,663	14.81	125,728	34.67	27,709	10.63
TOTAL	330,951	100.00	191,574	100.00	370,145	100.00	200,333	100.00	362,627	100.00	260,678	100.00

1/ Measured in thousands of sheets, and not readily convertible to weight. Not included in total quantity although value is totalled.

Continued--

Japan: Composition of marine product imports, 1967-1972--Continued

Commodity	1970				1971				1972			
	Quantity	% Total quantity	Value	% Total value	Quantity	% Total quantity	Value	% Total value	Quantity	% Total quantity	Value	% Total value
	M.T.	Percent	Thousand dollars	Percent	M.T.	Percent	Thousand dollars	Percent	M.T.	Percent	Thousand dollars	Percent
MARINE FISH	111,963	28.98	94,561	29.55	138,858	34.06	125,144	28.08	156,831	31.90	190,293	30.23
Live	4,188	1.08	15,814	4.94	6,653	1.63	22,048	4.95	9,907	2.02	40,440	6.42
Fresh, chilled or frozen	92,765	24.02	44,824	14.01	115,785	28.40	61,416	13.78	124,245	25.27	73,299	11.64
Salted, dried or smoked	13,495	3.49	31,368	9.80	14,016	3.44	37,805	8.48	20,738	4.22	72,313	11.49
Canned, other preparations	1,515	0.39	2,555	0.80	2,404	0.59	3,875	0.87	1,941	0.39	4,241	0.67
CRUSTACEA AND MOLLUSCS	128,422	33.24	176,613	55.20	195,796	48.03	289,674	65.01	223,649	45.50	396,535	62.99
Live, fresh, chilled frozen	118,705	30.73	165,885	51.85	183,087	44.91	274,661	61.64	207,220	42.15	373,226	59.29
Smoked, dried or salted	2,516	0.65	3,293	1.03	1,661	0.41	2,305	0.52	1,848	0.38	3,192	0.51
Canned, other preparations	7,201	1.86	7,435	2.32	11,048	2.71	12,708	2.85	14,581	2.97	20,117	3.20
WHALE MEAT	15,396	3.99	3,816	1.19	17,837	4.38	5,517	1.24	18,277	3.72	6,336	1.01
SEAWEED	13,559	3.51	14,228	4.45	15,560	3.82	11,152	2.50	15,418	3.14	12,317	1.96
Dried lavers	(476,652) 1/	---	8,607	2.69	(441,188) 1/	---	3,874	0.87	(76,593) 1/	---	2,535	0.40
Other Seaweed and by-products	13,559	3.51	5,621	1.76	15,560	3.82	7,278	1.63	14,418	3.14	9,782	1.55
MEAL, OILS, SHELL, PEARLS, ETC	116,973	30.28	30,758	9.61	39,579	9.71	14,109	3.17	77,377	15.74	24,060	3.82
TOTAL	386,313	100.00	319,976	100.00	407,630	100.00	445,596	100.00	491,552	100.00	629,541	100.00

1/ Measured in thousands of sheets, and not readily convertible to weight. Not included in total quantity although value is totalled.

Appendix table 8.--Japan: International trade in shrimp, prawn, and lobsters, fresh, chilled, or frozen, 1967-1972

Country	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
IMPORTS	Metric tons						Dollars					
Total	44,465.7	35,203.7	48,885.8	57,146.0	78,874.1	88,120.3	79,732,186	78,078,617	121,747,611	137,025,672	212,560,452	296,760,590
China	5,003.9	3,769.4	4,135.9	6,247.8	5,283.9	3,519.5	10,313,986	8,242,228	11,466,455	19,280,017	18,419,493	15,730,075
Taiwan	759.4	852.7	1,305.1	2,487.0	4,464.9	4,555.4	2,049,172	2,401,217	2,741,239	4,715,925	10,347,652	12,038,900
Hong Kong	3,001.9	3,628.4	4,230.4	3,058.0	3,951.6	3,539.3	7,411,658	9,550,692	12,852,647	9,240,825	14,791,748	15,597,498
Thailand	5,089.9	4,581.2	6,395.1	5,982.7	7,080.6	7,507.0	10,334,278	11,142,344	15,149,700	14,023,119	18,740,043	24,637,052
Malaya	473.5	575.3	1,650.7	2,060.5	5,169.5	5,804.8	1,064,611	1,479,072	3,721,903	4,085,425	10,279,551	13,733,000
Indonesia	15.0	660.9	2,604.0	3,684.3	8,224.0	13,823.8	38,411	1,479,342	6,404,681	8,799,767	22,287,368	46,930,785
India	2,416.6	3,164.4	4,863.6	6,386.8	9,703.4	12,811.9	4,613,883	6,566,653	11,957,186	14,690,475	24,698,838	40,597,452
Pakistan	1,199.7	1,635.2	2,645.6	2,276.2	3,203.5	2,606.9	2,729,064	3,601,486	6,517,858	5,416,058	8,385,864	9,148,983
Mexico	7,994.7	5,768.7	5,511.3	7,210.0	6,520.6	5,406.9	19,440,002	14,577,158	15,705,197	19,962,261	22,565,021	22,700,686
Australia	966.1	924.9	3,382.8	3,664.5	3,974.0	4,095.5	2,566,572	2,600,239	10,189,703	11,262,114	15,043,183	19,538,478
Other as % of total	39.5%	27.4%	24.8%	24.7%	27.0%	27.7%	24.3%	21.0%	20.6%	18.7%	22.1%	25.6%
EXPORTS												
Total	1,285.7	2,312.4	3,219.0	3,144.7	3,952.1	3,938.7	2,497,211	5,309,311	8,005,078	6,929,794	12,377,681	12,395,729
Ryukyu Is.	12.9	73.1	60.9	48.7	63.5	18.6	29,644	155,925	165,308	113,713	179,988	58,274
Indonesia	---	---	---	7.8	11.5	---	---	---	---	3,061	24,188	---
Canada	9.1	4.1	8.8	6.2	33.4	8.0	19,686	15,461	37,272	21,206	215,333	51,277
U.S.A.	500.0	1,098.0	1,379.7	1,083.3	1,369.7	858.5	984,814	2,977,458	4,208,881	2,946,633	6,562,939	5,126,974
Costa Rica	---	---	---	---	20.0	---	---	---	---	---	101,907	---
Trinidad	---	46.2	137.8	466.2	587.0	631.9	---	92,406	27,553	932,478	1,196,632	1,284,634
Guyana	---	354.6	782.9	787.1	1,180.4	1,464.4	---	575,169	1,599,069	1,677,650	2,614,412	3,793,878
Surinam	347.9	542.5	516.5	514.7	655.4	714.0	782,050	1,171,133	1,081,567	946,664	1,403,304	1,707,495
Canary Is.	1.0	0.3	7.0	128.1	11.9	5.8	500	1,106	5,600	40,239	7,829	22,132
Australia	45.1	0.7	0.5	.3	6.4	---	95,067	1,331	981	1,125	21,843	---
Others as % of total	28.8%	8.3%	10.1%	3.3%	.3%	6.0%	23.4%	6.0%	11.0%	3.6%	.4%	2.8%
NET IMPORTS	43,180.0	32,891.3	45,666.8	54,001.3	74,922.0	84,181.6	77,234,975	72,769,286	113,742,533	130,095,878	200,182,771	284,364,861

SOURCE: Japan: Exports and Imports, 1967-72.

Appendix table 9.--Japan: International trade in cuttlefish and squid, live, fresh, chilled, or frozen, 1967-1972

Country	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
IMPORTS	Metric tons						Dollars					
Total	5,166.3	8,502.7	8,458.0	15,225.1	21,329.7	27,843.8	1,563,167	2,584,561	3,328,306	10,966,633	15,891,643	21,272,551
Ryukyu Is.	919.2	827.5	520.7	673.8	1,458.2	676.9	440,056	331,733	258,544	683,144	1,707,901	853,604
Rep. Korea	1.2	17.2	369.5	957.7	5,628.6	[illegible]72.4	361	6,833	231,858	544,678	3,201,133	5,258,683
China	304.9	576.2	---	105.8	253.4	511.5	97,869	146,597	---	40,950	103,180	301,752
Thailand	---	2.1	62.7	564.0	1,089.6	4,636.8	---	933	44,056	549,578	927,545	5,061,650
France	---	---	30.3	3,134.3	2,709.1	583.2	---	---	16,978	2,475,300	1,955,745	344,795
Spain	1,746.3	2,306.0	1,698.7	3,301.6	5,149.6	7,253.0	427,378	621,150	574,333	1,837,678	3,895,151	5,151,568
Italy	61.6	343.8	124.0	699.9	449.2	443.4	25,981	152,397	105,636	844,211	489,887	634,079
Greece	207.5	191.3	803.1	1,675.8	1,643.8	1,281.6	64,675	76,975	474,594	1,390,378	1,380,078	1,068,634
Mauritania	---	---	---	866.9	579.7	477.7	---	---	---	603,633	392,171	316,931
Canary Is.	1,925.5	3,865.7	4,381.4	2,746.9	2,073.6	2,162.4	506,847	1,115,950	1,320,606	1,566,503	1,582,174	1,564,096
Others as % of total	---	4.4%	5.5%	3.3%	1.4%	3.0%	---	5.9%	9.1%	3.9%	1.6%	3.4%
EXPORTS												
Total	11,824.7	12,526.0	15,144.4	22,361.1	20,538.3	25,729.1	3,108,958	4,188,492	6,543,603	10,829,787	9,525,597	13,200,042
Ryukyu Is.	549.9	684.6	993.1	718.0	374.0	98.9	179,233	204,158	338,544	364,992	290,009	84,818
Lebanon	---	---	53.5	---	121.4	---	---	---	8,586	---	21,887	---
Spain	478.6	1,201.2	559.3	4,325.8	3,276.2	5,384.9	160,458	437,342	271,739	2,063,561	1,435,959	2,895,353
Italy	4,574.0	4,695.4	7,493.8	12,367.0	11,995.8	11,389.0	1,175,375	1,660,328	3,404,461	5,775,664	5,404,591	5,381,987
Greece	942.7	736.3	277.7	753.8	421.2	1,070.9	237,528	240,411	69,642	370,255	196,724	512,218
U.S.A.	260.5	323.4	663.6	575.2	343.2	399.2	144,478	166,756	285,189	332,794	279,773	354,663
Mauritania	---	---	---	---	64.3	1,718.9	---	---	---	---	36,835	1,048,323
Liberia	---	---	---	---	311.4	---	---	---	---	---	55,603	---
Canary Is.	2,424.9	2,607.4	3,310.0	2,270.3	3,478.1	4,598.0	696,378	906,733	1,276,986	1,155,217	1,726,507	2,263,647
S. Africa	---	---	10.0	141.5	76.8	66.4	---	---	4,019	57,536	25,496	20,891
Others as % of total	21.9%	18.2%	11.1%	5.4%	0.4%	3.9%	16.6%	13.7%	13.5%	6.6%	0.6%	5.0%
NET IMPORTS	-6,658.4	-4,023.3	-6,686.4	-7,136.0	791.4	2,214.7	-1,545,791	-1,603,931	-3,215,297	136,836	6,366,046	8,072,509

SOURCE: Japan: Exports and Imports, 1967-72.

Appendix table 10.--Japan: International trade in crabs, live, fresh, chilled, or frozen, 1967-1972

Country	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
	Metric tons						Dollars					
IMPORTS												
Total	---	---	---	896.8	1,432.6	2,519.0	---	---	---	839,786	1,555,052	3,382,469
Rep. Korea	---	---	---	386.3	892.7	1,664.6	---	---	---	581,131	1,150,322	2,688,172
N. Korea	---	---	---	36.4	15.6	337.2	---	---	---	9,225	8,951	273,106
China	---	---	---	42.4	220.0	383.2	---	---	---	12,572	79,939	149,960
Taiwan	---	---	---	376.7	218.0	38.3	---	---	---	199,136	133,209	23,168
Hong Kong	---	---	---	0.1	46.0	68.2	---	---	---	1,250	140,736	215,056
Thailand	---	---	---	16.4	5.8	0.7	---	---	---	6,267	5,322	1,868
Canada	---	---	---	0.5	3.1	---	---	---	---	575	2,609	---
U.S.A.	---	---	---	28.8	31.3	23.2	---	---	---	28,542	33,965	29,310
Ryukyu Is.	---	---	---	9.2	---	---	---	---	---	1,089	---	---
New Zealand	---	---	---	---	---	3.5	---	---	---	---	---	1,551
Others as % of total	---	---	---	---	---	0.0%	---	---	---	---	---	0.0%
EXPORTS												
Total	---	---	---	---	---	---	---	---	---	---	---	---
NET IMPORTS	---	---	---	896.8	1,432.6	2,519.0	---	---	---	839,786	1,555,052	3,382,469

SOURCE: Japan: Exports and Imports, 1967-72.

Appendix table 11.--Japan: International trade in hard clams, live, fresh, chilled, or frozen, 1967-1972

Country	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
	Metric tons						Dollars					
IMPORTS												
Total	---	---	---	5,612.1	10,194.2	15,372.2	---	---	---	2,200,079	4,557,855	6,892,485
Rep. Korea	---	---	---	3,487.6	6,429.9	8,883.2	---	---	---	1,593,067	2,850,777	4,256,360
N. Korea	---	---	---	1,597.9	2,485.4	4,030.8	---	---	---	804,508	1,175,971	1,571,558
China	---	---	---	510.7	1,278.0	2,455.5	---	---	---	193,308	530,533	1,054,023
Taiwan	---	---	---	---	1.0	---	---	---	---	---	574	---
Thailand	---	---	---	15.1	---	0.3	---	---	---	20,167	---	366
Malaya	---	---	---	0.7	---	---	---	---	---	736	---	---
India	---	---	---	---	---	2.4	---	---	---	---	---	10,178
Others as % of total	---	---	---	---	---	---	---	---	---	---	---	---
EXPORTS												
Total	---	---	---	---	---	---	---	---	---	---	---	---
NET IMPORTS	---	---	---	5,612.1	10,194.2	15,372.2	---	---	---	2,200,079	4,557,855	6,892,485

SOURCE: Japan: Exports and Imports, 1967-72.

Appendix table 12.--Japan: International trade in jellyfish, dried, salted, or smoked, 1967-1972

Country	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
IMPORTS	Metric tons						Dollars					
Total	6,398.2	2,816.3	2,647.0	3,900.9	4,685.7	5,330.6	3,436,136	2,020,025	4,067,783	7,792,833	6,785,435	7,121,036
Rep. Korea	0.4	---	1.9	6.5	---	---	683	---	3,719	12,183	---	---
N. Korea	2.0	---	---	---	---	0.8	3,153	---	---	---	---	1,056
China	6,341.0	2,790.4	2,130.8	3,033.6	4,145.0	3,908.5	3,410,881	2,002,967	3,307,428	6,806,228	6,300,243	5,328,152
Taiwan	49.8	2.5	2.0	---	---	8.0	19,739	3,956	7,681	---	---	10,736
N. Vietnam	5.0	17.4	1.2	17.8	1.0	4.1	1,681	7,700	492	19,783	1,307	3,762
Thailand	---	6.0	331.6	219.3	16.4	108.0	---	5,403	442,503	235,089	14,168	120,927
Singapore	---	---	1.0	---	---	32.1	---	---	1,753	---	---	46,343
Malaya	---	---	---	99.6	350.3	876.7	---	---	---	111,828	330,777	1,199,591
Sarawak	---	---	1.6	5.3	---	7.3	---	---	464	6,161	---	8,071
Indonesia	---	---	176.3	518.9	171.2	385.1	---	---	300,928	601,561	136,849	402,452
Others as % of total	---	---	0.0%	---	0.0%	---	---	---	0.1%	---	0.0%	---
EXPORTS												
Total	---	---	---	---	---	---	---	---	---	---	---	---
NET IMPORTS	6,398.2	2,816.3	2,647.0	3,900.9	4,685.7	5,330.6	3,436,136	2,020,025	4,067,783	7,792,833	6,785,435	7,121,036

SOURCE: Japan: Exports and Imports, 1967-72.

Appendix table 13.--Japan: International trade in yellowfin tuna, fresh, chilled, or frozen, 1967-1972

Country	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
IMPORTS	Metric tons						Dollars					
Total	---	---	---	7,179.6	7,008.3	8,430.0	---	---	---	4,448,503	5,171,884	8,425,733
Ryukyu Is.	---	---	---	3,358.9	1,825.1	779.3	---	---	---	2,232,489	1,337,142	777,218
Rep. Korea	---	---	---	1,595.3	2,277.0	3,944.0	---	---	---	890,039	1,509,559	3,339,198
Taiwan	---	---	---	1,657.0	1,476.1	2,025.4	---	---	---	1,084,033	1,645,400	3,458,554
Malaya	---	---	---	121.3	47.9	193.0	---	---	---	80,553	28,238	123,653
Philippines	---	---	---	34.1	670.0	820.9	---	---	---	10,369	362,742	426,634
U.S.A.	---	---	---	---	258.2	266.5	---	---	---	---	92,954	74,967
Ecuador	---	---	---	---	123.5	---	---	---	---	---	53,507	---
Mauritius	---	---	---	0.6	94.1	93.7	---	---	---	253	53,901	68,307
New Hebrides	---	---	---	20.9	66.1	47.5	---	---	---	9,847	26,275	28,393
Thailand	---	---	---	---	50.4	14.9	---	---	---	---	15,557	4,195
Others as % of total	---	---	---	5.5%	1.7%	2.9%	---	---	---	3.2%	0.9%	1.5%
EXPORTS												
Total	47,732.7	54,653.2	29,451.9	21,755.9	13,961.2	15,094.6	20,622,903	22,127,922	12,191,086	12,055,133	8,258,904	8,182,904
Malaya	285.0	313.0	759.2	23.7	586.5	---	111,761	127,122	296,528	11,494	394,690	---
France	---	---	---	---	82.0	---	---	---	---	---	58,014	---
Spain	---	652.1	864.7	276.3	306.0	110.0	---	144,964	215,803	87,750	128,974	44,726
Italy	25,145.2	20,567.3	12,448.3	8,182.3	5,556.9	1,530.6	11,213,333	8,698,706	5,563,825	5,092,869	4,076,006	1,137,264
U.S.A.	9,380.0	20,130.0	8,384.6	8,451.3	2,062.8	3,963.2	4,380,517	8,664,553	3,573,292	4,993,863	1,383,736	2,784,865
Puerto Rico	10,441.8	10,525.1	4,650.7	3,301.0	4,958.0	8,320.5	4,106,550	3,706,939	1,709,678	1,363,533	2,091,067	3,801,614
Ghana	187.5	290.8	491.3	884.5	167.6	184.7	26,269	43,319	95,928	234,917	21,783	28,175
Canary Is.	15.6	0.9	---	---	12.8	---	3,931	383	---	---	8,725	---
Fiji	459.3	352.9	270.5	296.3	164.5	375.0	127,281	106,275	88,683	116,769	67,090	189,541
American Samoa	1,217.2	1,103.9	634.8	230.6	58.7	302.2	418,931	387,217	275,261	102,922	26,922	148,208
Others as % of total	1.3%	1.3%	3.2%	0.5%	0.0%	2.0%	1.1%	1.1%	3.1%	0.4%	0.0%	0.6%
NET IMPORTS	-47,732.7	-54,653.2	-29,451.9	-14,576.3	-6,952.9	-6,664.6	-20,622,903	-22,127,922	-12,191,086	-760,663	-3,087,020	242,829

SOURCE: Japan: Exports and Imports, 1967-72.

Appendix table 14.--Japan: International trade in bluefin tuna, fresh, chilled, or frozen, 1967-1972

Country	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
IMPORTS	Metric tons						Dollars					
Total	---	---	---	342.3	450.9	1,001.5	---	---	---	206,269	453,412	1,431,904
Ryukyu Is.	---	---	---	28.9	115.5	84.2	---	---	---	19,750	167,554	258,667
Rep. Korea	---	---	---	48.7	19.3	9.7	---	---	---	16,436	8,967	2,297
Taiwan	---	---	---	103.9	65.0	77.5	---	---	---	60,608	34,657	55,030
Thailand	---	---	---	---	67.2	304.6	---	---	---	---	19,813	88,007
Norway	---	---	---	58.7	96.1	30.9	---	---	---	49,492	116,194	104,815
Canada	---	---	---	54.9	0.7	81.4	---	---	---	37,847	431	212,987
U.S.A.	---	---	---	5.5	32.3	394.0	---	---	---	4,917	73,369	690,782
Panama	---	---	---	14.4	1.0	2.5	---	---	---	7,483	366	1,535
Neth. Antilles	---	---	---	16.9	17.3	2.5	---	---	---	6,008	7,714	1,083
Australia	---	---	---	10.0	7.4	14.1	---	---	---	3,500	10,224	16,703
Others as % of total	---	---	---	0.1%	6.5%	---	---	---	---	0.1%	3.1%	---
EXPORTS												
Total	792.8	193.9	52.9	22.4	0.2	25.3	324,308	92,631	18,539	12,308	1,296	18,779
Hong Kong	---	---	---	---	---	0.2	---	---	---	---	---	1,736
Thailand	1.9	2.4	0.9	0.2	---	0.2	6,461	14,956	6,042	1,222	---	3,482
Puerto Rico	---	---	---	---	---	25.0	---	---	---	---	---	13,561
United Kingdom	0.4	0.1	0.2	0.2	0.2	---	1,453	522	1,214	703	1,296	---
Italy	705.7	53.2	---	22.0	---	---	298,944	19,183	---	10,383	---	---
Neth. Antilles	2.0	1.9	47.8	---	---	---	650	464	10,006	---	---	---
New Hebrides	---	---	4.0	---	---	---	---	---	1,278	---	---	---
Tunisia	---	135.0	---	---	---	---	---	56,689	---	---	---	---
Guam	---	1.4	---	---	---	---	---	817	---	---	---	---
Ivory Coast	67.9	---	---	---	---	---	10,119	---	---	---	---	---
Others as % of total	1.9%	---	---	---	---	---	2.1%	---	---	---	---	---
NEW IMPORTS	-792.8	-193.9	-52.9	319.9	450.7	976.2	-324,308	-92,631	-18,539	193,961	452,116	1,413,125

SOURCE: Japan: Exports and Imports. 1967-1972.

Appendix table 15.--Japan: International trade in sea bream, fresh, chilled, or frozen, 1967-1972

Country	Quantity						Value					
	1967	1968	1969	1970	1971	1972	1967	1968	1969	1970	1971	1972
IMPORTS	Metric tons						Dollars					
Total	1,556.3	1,146.4	2,742.3	2,726.6	2,209.8	3,786.8	516,067	367,544	708,333	1,288,892	1,389,617	3,164,974
Ryukyu Is.	304.1	271.8	199.6	126.1	129.7	72.8	71,800	61,575	88,919	60,547	117,687	69,690
Rep. Korea	276.3	159.2	193.6	42.0	69.7	520.0	142,681	103,067	118,569	37,092	67,281	343,168
Taiwan	56.5	138.6	67.9	43.3	198.0	263.3	31,611	61,019	45,747	33,486	110,794	280,538
Hong Kong	67.8	3.0	22.8	37.4	84.0	41.1	24,972	1,097	14,931	29,633	31,959	48,350
Thailand	67.3	---	3.0	---	3.0	0.6	10,092	---	1,986	---	2,670	535
Singapore	---	---	---	---	19.0	11.3	---	---	---	---	10,249	10,010
U.S.S.R.	---	300.0	1,403.4	50.7	56.9	---	---	27,069	154,311	8,658	13,222	---
Argentina	306.3	33.2	31.4	261.2	17.9	---	107,267	11,272	10,847	108,456	9,197	---
S. Africa	27.8	---	---	---	148.5	---	9,608	---	---	---	66,800	---
New Zealand	89.7	216.6	355.6	1,064.2	1,438.3	2,740.9	38,719	95,444	155,853	681,511	938,617	2,343,987
Others as % of total	23.2%	---	17.0%	40.4%	2.0%	3.6%	15.4%	---	16.5%	25.6%	1.5%	2.2%
EXPORTS												
Total	9,606.5	9,494.1	9,938.7	6,756.7	5,556.3	3,666.4	1,526,036	1,466,472	1,392,150	1,152,653	1,492,104	897,436
Ryukyu Is.	407.6	235.9	174.5	512.9	571.4	160.3	105,492	64,203	52,192	160,444	240,722	85,924
Lebanon	1,069.6	1,554.8	2,052.9	1,063.7	1,158.8	1,111.4	168,642	225,183	275,706	147,238	187,023	215,271
Spain	250.0	7.2	---	3.9	74.2	---	39,311	1,431	---	466	23,339	---
Italy	365.0	811.3	225.9	497.8	651.7	571.3	84,092	218,078	66,317	144,814	219,928	223,191
Cyprus	459.9	419.1	538.5	151.1	91.5	20.5	71,283	71,947	97,647	36,839	18,304	7,119
Sierra Leone	2,111.6	2,395.5	4,514.1	938.0	657.0	619.4	263,717	264,325	579,867	128,003	92,043	82,340
Liberia	2,176.4	1,155.6	---	1,571.4	1,550.6	538.9	291,342	164,225	---	221,400	303,736	73,033
Ghana	843.4	967.9	1,632.1	1,752.3	127.6	259.2	132,286	120,517	173,900	254,342	15,255	63,228
Canary Is.	242.0	69.5	101.3	145.7	604.8	149.5	62,825	9,831	7,353	16,647	349,107	77,215
S. Africa	---	---	---	---	46.7	---	---	---	---	---	8,626	---
Others as % of total	17.5%	19.8%	7.0%	1.8%	0.4%	6.4%	20.1%	22.3%	10.0%	3.7%	2.3%	7.8%
NET IMPORTS	-8,050.2	-8,347.7	-7,196.2	-4,030.1	-3,346.5	120.4	-1,009,969	-1,098,925	-683,817	136,239	-102,487	2,267,538

SOURCE: Japan: Exports and Imports, 1967-72.

APPENDIX D.--YEN-DOLLAR EXCHANGE RATES

The annual yen-dollar exchange rates, 1967-1972, were as follows:

Year	Rate
1967	360
1968	360
1969	360
1970	360
1971	345
1972	303

A monthly breakdown for 1970-1972 is shown in Appendix table 16.

Appendix table 16.--Japan: Yen-dollar exchange rate, 1970-1972

Year	Monthly Rates	
	Month	Rate 1/
1970	Jan.	360.0
	Feb.	360.0
	Mar.	360.0
	Apr.	360.0
	May	360.0
	June	360.0
	July	360.0
	Aug.	360.0
	Sept.	360.0
	Oct.	360.0
	Nov.	360.0
	Dec.	360.0
1971	Jan.	360.0
	Feb.	360.0
	Mar.	360.0
	Apr.	360.0
	May	360.0
	June	360.0
	July	360.0
	Aug.	339.0
	Sept.	334.2
	Oct.	329.3
	Nov.	327.6
	Dec.	314.8
1972	Jan.	310.4
	Feb.	304.2
	Mar.	304.2
	Apr.	304.8
	May	304.6
	June	301.1
	July	301.1
	Aug.	301.1
	Sept.	301.1
	Oct.	301.1
	Nov.	301.1
	Dec.	301.1

1/ Rates are end-of-month figures quoted by IMF, except Jan., 1970 - July, 1971. Small fluctuations around the par value of 360 have, for purposes of simplicity, been eliminated.

SOURCE: International Financial Statistics, International Monetary Fund, Washington, D.C., selected issues, 1967 to 1973.

APPENDIX E.--SELECTED COMPANIES AND GOVERNMENT AGENCIES INTERVIEWED IN JAPAN, FEBRUARY 1973

GOVERNMENT

1. JETRO (Japanese External Trade Organization)

   A. Motonobu Inagaki, Director

   B. Michio Yakabe, Chief of Southeast Asia Corporation Section

   C. K. Mihara, Agriculture and Marine Products Section

2. Environmental Sanitation Bureau
   Ministry of Health and Welfare
   1-Chome, Kasumigaseki
   Chiyoda-Ku, Tokyo

   Yoichi Furusawa, D.V.M., Food Sanitation Section

3. Fishery Agency
   Ministry of Agriculture and Forestry
   1-2-1, Kasumigaseki
   Chiyoda-Ku, Tokyo

   A. Iwao Arakatsu, Director General

   B. J. Masumitu, Director, Administration Department

   C. Mr. Iwasaki, Trading Department

   D. Tadashi Imai, Aquatic Product Division

4. Ministry of International Trade and Industry
   Tokyo, Japan
   International Trade Bureau

   Tadao Kimura, Deputy Director

5. Tokyo Metropolitan Central Wholesale Market, Marine Products Section
   1-2-5 Tukiji Chuo-Ku
   Tokyo 104 Japan

   Kazuo Okazaki, Manager

IMPORTERS

1. Dai-Ichi Shoji Company, Ltd.
   Central P. O. Box 1514
   Tokyo, Japan

   T. Saito, Manager

2. Kyokuyo Company, Ltd.
   Chiyoda Building
   1-2, 2-Chome, Marunouchi
   Chiyoda-Ku, Tokyo

   A. S. Watanabe, Deputy Manager, Foreign Trade Division

   B. Ryosaku Eguchi, Chief of Shrimp Trawling Section 1

   C. Hiranori Shimizu, Director and Manager, Trading Department

   D. Hiroshi Arai, Trading Department

   E. Yuzo Nimura, Trading Department

   F. Natsuya Cho, Trading Department

3. Nippon Reizo Kabushiki Kaisha
   5-7, Minato 3-Chome
   Chuo-Ku, Tokyo

   A. Koichi Maejima, Marine Products Department No. 1

   B. Masao Takeda, Foreign Trade Department

   C. Teiji Mizuno, Manager, Foreign Trade Department

   D. Akio Sunouchi, Deputy Manager, Marine Products Division 1

4. Taiyo Gyogyo Kabushiki Kaisha
New Marunouchi Building
5-1, 1-Chome, Marunouchi
Chiyoda-Ku, Tokyo

A. Tsuyoshi Kamikochi, Director and Deputy Manager, International Division

B. Mizuho Ohno, Deputy Manager, Overseas Operations Department

C. Yoshihiro Matsuda, Overseas Shrimp Operations Department

D. Kenji Moritsugu, Overseas Shrimp Operations Department

5. Marubeni Corporation
4-2 Ohtemachi, 1-Chome
Chiyoda-Ku, Tokyo

A. S. Kirii, General Manager of Marine Products Department and President of the Japan Marine Products Importers Association

B. Y. Hirokawa, Marine Products Section III

C. Yasuo Sumiyoshi, Marine Products Section 1

D. Norimasa Aoyagi, Manager, Marine Products and Foodstuff Department

E. Y. Kitamura, Manager of Marine Products Section 1

F. K. Sakai, Eel Specialist

6. The Nippon Tropical Fish Co., Ltd.
1-14-12 Higashi-Ueno
Taito-Ku, Tokyo

Shinji Makino, President

TRANSPORTATION

"K" Line (Kawasaki Kisen Kaisha, Ltd.)
Iino Building
Tokyo, Japan

K. Kuroya, Asia and Africa Section

APPENDIX F.--LIST OF MEMBERS,

JAPAN MARINE PRODUCTS IMPORTERS ASSOCIATION

TOKYO, JAPAN, 1972 1/

1/ Membership list supplied by The Association.

Company & Section	Address	Cable Address	Tel. No.	Telex No.
[A]				
ATAKA & CO., LTD. TOKYO HEAD OFFICE Marine Section	Ohtemachi Bldg., 6-1, Ohtemachi, 1-chome, Chiyoda-ku, Tokyo	ATAKAKO TOKYO	217-2739	ATAKAKO J22304
[C]				
C. ITOH & CO., LTD. Marine Products Department	4, 2-chome, Honcho, Nihonbashi, Chuo-ku, Tokyo	CITOH TOKYO	662-5111	TK-2295/7
CHORI CO., LTD. Foodstuffs Section	9, 2-chome, Horidome-cho, Nihonbashi, Chuo-ku, Tokyo	RAYON OR CHOCHOSAN	662-6611	TK-2252
[D]				
DAIMARU KOGYO KAISHA, LTD. Import Section	9-10, Ginza, 2-chome, Chuo-ku, Tokyo	DAIMARUKO TOKYO	543-6211	J24396
[E]				
EASTERN PRODUCTS CO., LTD. Marine Products Dept. Sect. 1	Tokyo Kaijo Bldg., No. 1657 1-2-1, Marunouchi, Chiyoda-ku, Tokyo	EASTERNPRO TOKYO	215-6202	EPCTOBU J26285
[F]				
FUJIMOTO SHOJI CO., LTD.	Chiyoda Bldg. 2F, No. 7-5-7, Tsukiji, Chuo-ku, Tokyo	TUKIFUJIGORO	541-1364/5	
FUSO TRADING CO., LTD.	Naka Bldg., 14-17, Tsukiji 2-chome, Chuo-ku, Tokyo (Central P.O. Box 11)	BACKBONE TOKYO	541-5581	
[H]				
HOKO FISHING CO., LTD. Trading Section	No. 3-4, 1-chome, Tsukiji, Chuo-ku, Tokyo	HKSUISAN TOKYO	542-5411	0252-2933
HOHMEI CO., LTD. TOKYO	No. 10-8, 2-chome, Shibaura, Minato-ku, Tokyo	ABSEAHOHMEI – TOKYO	452-3461/3	

Company & Section	Address	Cable Address	Tel. No.	Telex No.
[I]				
INTERNATIONAL MARINE PRODUCTS CO.	24, Nishikubo-Tomoecho, Minato-ku, Tokyo	IMPCO TOKYO	437-0151	
ITOMAN & CO., LTD. Foodstuff Section 2	Mori Bldg., No. 20 7-4, Nishishinbashi 2-chome Minato-ku, Tokyo	ITOMAN TOKYO	501-5111	J22810
[J]				
JAPAN CO-OPERATIVE TRADING CO., LTD.	Seikyo-Kaikan, 1-13, 4-chome, Sendagaya, Shibuya-ku, Tokyo	COOPTRADE TOKYO	404-3251	242-2279
[K]				
KANEMATSU-GOSHO LTD. Marine Products	5, 2-chome, Takara-cho, Chuo-ku, Tokyo (Central P.O. Box No. 141)	KANEGOLD TOKYO	562-7060	J-22333 J-22334
KASHO CO., LTD. Marine & Animal Products Section	No. 3, 2-chome, Nihonbashi-Edobashi, Chuo-ku, Tokyo (P.O. Box No. 150 Nihonbashi, Tokyo)	KASHOCOY TOKYO	270-5221	222-2393
KYOKUYO CO., LTD. Trading Department	Chiyoda Bldg., 1-2, 2-chome, Marunouchi, Chiyoda-ku, Tokyo	CHIYODA KYOKUYO	211-5461	222-2493
[M]				
MARUBENI COLD-STRAGE CO., LTD.	22, 13, 4-chome, Shibaura, Minato-ku, Tokyo	TOKYO MINATO BENIREI	451-9301/5	
MARUBENI CORPORATION Marine Products Dept. Marine Products Section 1 Marine Products Section 2 Marine Products Section 3	4-2, Ohtemachi, 1-chome, Chiyoda-ku, Tokyo	MARUBENI TOKYO B960 B961 B962 B963	282-4750/1 282-4753/60 282-4765/70 282-4775/79	J22326/8
MEIWA TRADING CO., LTD.	No. 3-1, 3-chome, Marunouchi, Chiyoda-ku, Tokyo	MEIWA TOKYO	212-8151	TK-2336
MITSUBISHI CORPORATION Processed Food Dept. A, Frozen Goods Section B.	3-6, Marunouchi, 2-chome, Chiyoda-ku, Tokyo	MITSUBISHISHOJI TOKYO	210-6672	TK-2222/5
MITSUI & CO., LTD.	2-9, Nishi-Shinbashi, 1-chome, Minato-ku, Tokyo	MITSUI TOKYO	505-4653	TK-2253

Company & Section	Address	Cable Address	Tel. No.	Telex No.
[N]				
NAKAMURA SUISAN CO., LTD. TOKYO BRANCH	15-3-3, Kaigan, Minato-ku, Tokyo		452-3756	242-2503
NEMURO SUISAN KABUSIKI KAISHA	15, Kaigan-cho, Nemuro, Hokkaido, No. 7-18, 5-chome, Chuo, Nakano-ku, Tokyo		(01532) 3-2181 381-2725	
NICHIMEN CO., LTD. Marine Products Section, Foodstuff Dept. –II	3, 3-chome, Nihonbashi-Honcho, Chuo-ku, Tokyo	NBNICHIMEN TOKYO	242-2411	J22620
NICHIMO CO., LTD. Foreign Trade Department	Nippon Bldg., 2-6-2, Ohtemachi, Chiyoda-ku, Tokyo (Central P.O. Box 243 Tokyo 100-91)	NICHIMOCOMPANY TOKYO	270-6311	222-2552 NICHIMO J
NICHIRO GYOGYO KAISHA LTD. Overseas Department	Shin-Yurakucho Bldg., 1-11-1, Yuraku-cho, Chiyoda-ku, Tokyo	NICHIROGYO TOKYO	214-6161	222-3661
NIKKO SHOJI CO., LTD. Import Section, Foreign Trade Department	Tokyo International Airport, 1-6-6, Haneda, Ohta-ku, Tokyo	NIPPONAIRTRADE	747-6401/4	
NIPPON REIZO KABUSHIKI KAISHA Foreign Trade Department	No. 5-7, Minato 3-chome, Chuo-ku, Tokyo	NICHIREI TOKYO	551-2101	J2-2450
NIPPON SUISAN KAISHA, LTD. Foreign Trade Department	11th Floor, Nippon Bldg., No. 6-2, 2-chome, Ohtemachi, Chiyoda-ku, Tokyo	NISSUI TOKYO	279-3331	222-2271
NICHILYO, LTD.	13, 3-chome, Azabu-Iikura Minato-ku, Tokyo	FEEDSTUFF TOKYO	584-0151	242-2136
NISHIMOTO TRADING CO., LTD. TOKYO BRANCH	3-2-14, Sotokanda, Chiyoda-ku Tokyo		253-5221	2225504NTC
NISSHO-IWAI CO., LTD. Marine Products Section	10, Nihonbashi-Edobashi, 1-chome, Chuo-ku, Tokyo	NISSHOIWAI TOKYO	276-2111	J22233
NOMURA TRADING CO., LTD. TOKYO BRANCH Marine Products Section	Shin-Yaesuguchi Bldg., 3, Yaesu, 4-chome, Chuo-ku, Tokyo	NOMURABO TOKYO	272-8311	TK-2396 NOMURABO

Company & Section	Address	Cable Address	Tel. No.	Telex No.
NORTH BORNEO FISHING CO., (JAPAN) LTD.	Tanaka-Yaesu Bldg., No. 5-15, 1-chome, Yaesu, Chuo-ku, Tokyo	BORNSHRIMP	273-5746/ 5748	
NOZAKI & CO., LTD. Farm & Sea Products Department	Hokkai Bldg., No. 3-13, 1-chome, Nihonbashi, Chuo-ku, Tokyo	NOZAKI TOKYO	281-5351	TK-2375, 2836
[O]				
OKURA TRADING CO., LTD. Provisions 1st Section Food & Provisions Department	3-6, Ginza, 2-chome, Chuo-ku, Tokyo	OKURA TOKYO	563-6111	J22306
OSAKA GODO CO., LTD. TOKYO BRANCH Foreign Trade Section	No. 6, 2-chome, Nihonbashi-Honcho, Chuo-ku, Tokyo	OSAKAGODO TOKYO KUHOJIMURA TOKYO	662-3151	252-2212
[S]				
SAIKI SHOJI CO., LTD.	Room 529, Hibiya Park Bldg., 1, Yurakucho, Chiyoda-ku, Tokyo	CANSAIKI	213-4761 271-9636 271-4768/9	
SHIBAMOTO & CO., LTD. Import Section	Kyobashi P.O. Box No. 119, No. 1-12, Minato, 1-chome, Chuo-ku, Tokyo	SIBASTECO	553-1111 551-4231	J22512
SUMITOMO SHOJI KAISHA, LTD. TOKYO OFFICE Marine Products In Charge Food Department	New Sumitomo Shoji Bldg., 2-2, Hitotsubashi, 1-chome, Chiyoda-ku, Tokyo	SUMITSHOJI TOKYO	217-5000 217-6606	J-22202 J-22203 J-22467 J-24288
[T]				
TAISEI TRADING CO., LTD. Farms and Frozen Foods Dept.	Daido-Seimei Bldg., 7th Floor 2-7-4, Nihonbashi, Chuo-ku, Tokyo	RICHFOOD TOKYO	582-7771/5	J 26255
TAIYO GYOGYO KABUSHIKI KAISHA Foreign Trade Department	1-5-1, Marunouchi, Chiyoda-ku, Tokyo	OCEANFISH TOKYO	216-0811	J-22278
TAKARA SHOJI KABUSHIKI KAISHA Import Section	1-4, Kanda Kajimachi, Chiyoda-ku, Tokyo	TAKARASHOJILTD TOKYO	256-6911/9	0222-4496
TOKYO COMMERCIAL CO., LTD. Import Section	Playguide Bldg., 4-6, 2-chome, Ginza, Chuo-ku, Tokyo	TOCOMCO TOKYO	561-2161	2522432

Company & Section	Address	Cable Address	Tel. No.	Telex No.
TOKYO MARUICHI SHOJI CO., LTD. 3rd Business Department	No. 16-9, 2-chome, Uchikanda, Chiyoda-ku, Tokyo	MARUICHISHOJI TOKYO	256-1111	TOKMARU J22427
TOSHOKU, LTD.	Mitsui Annex Bldg., 3, 3-chome, Muromachi, Nihonbashi, Chuo-ku, Tokyo	TOKFOOD TOKYO TOSHOKULTD TOKYO	244-2211	J22352 J22353 J22872
TOYO MENKA KAISHA, LTD. Foodstuff Department	1-3, Ohtemachi, 1-chome, Chiyoda-ku, Tokyo C.P.O. Box 183 Tokyo, 100-91	TQYOMENKA TOKYO	201-8111	TK-2421 TK-2548
TOYO SUISAN KAISHA, LTD. Fish Business Department	13-40, Kohnan 2-chome, Minato-ku, Tokyo	MARUTOFISH TOKYO	471-5127	242-2301
TOYODA TSUSHO KAISHA, LTD. Foodstuff Section	5-7, Yaesu, Chuo-ku, Tokyo	TOYOSAN TOKYO	272-0411	J2-2827
[U]				
UROKO SANGYO KAISHA, LTD. Business Section	No. 740, New Tokyo Bldg., 3-3-1, Marunouchi, Chiyoda-ku, Tokyo	UROKOTRADE TOKYO	211-8861	02222156 UROKO–J
[W]				
WASHINGTON FISH INC.	No. 2, Teiko Bldg., 1-12-2 Shintomi, Chuo-ku, Tokyo	WAFIOYCO TOKYO	551-3191	J-24234
WILBER-ELLIS CO., (JAPAN) LTD. Foodstuff Department	San-Shin Bldg., 10, 1-chome, Yuraku-cho, Chiyoda-ku, Tokyo	WILBURELL	591-3221/ 3225	J22257

Company & Section	Address	Cable Address	Tel. No.	Telex No.
KANSAI BRANCH				
[A]				
ATAKA & CO., LTD. Produce Dept. Provision Sect.	5-14, Imabashi, Higashi-ku, Osaka	ATAKACO OSAKA	(06) 231-8461	ATAKACO J63320
[C]				
C. ITOH & CO., LTD. Osaka Provisions Dept.	4-68, Kyutaro-machi, Higashi-ku, Osaka	CITOH OSAKA	(06) 241-2121	J6-3260 -3286
[D]				
DAIEI TAIGEN CO., LTD. Import Sect.	9-4, Kozu-cho, Minami-ku, Osaka	EBI DAIEI	(06) 631-0451	
[E]				
EASTERN PRODUCTS CO., LTD. OSAKA BRANCH	68-2, Kusabiraki-cho, Fukushima-ku, Osaka	524-5690 TOBU OSK	(06) 448-3355	
[I]				
ITOMAN & CO., LTD. Foodstuff No. 2 Sect.	4-46, Hon-machi, Higashi-ku Osaka	ITOMAN OSAKA	(06) 252-1212	J6 3233 J6 3323
[K]				
KASHO CO., LTD. KOBE BRANCH	Meijiseimei Bldg., 8-9-6, Isogami-Dori, Fukiai-ku, Kobe	KASHOCOY KOBE	(078) 231-4101	5622-330
KANEMATSU-GOSHO, LTD. Foodstuffs Dept.	33, Awaji-machi, 5-chome, Higashi-ku, Osaka	KANEGOLD OSAKA	(06) 228-3712	522-5051
KOBE YOKO LTD.	Central Market, Shinzaike-cho, Hyogo-ku, Kobe	KOBEYOKO KOBE	(078) 651-5121 5128	J78838 KOBEYOKO
[M]				
MITSUBISHI CORPORATION OSAKA BRANCH Foods Dept. -B. Marine Products Sect.	22-2, Shinmei-cho, Kita-ku, Osaka	MITSUBISHIFD OSAKA	(06) 364-1231	J63225-6 MITUBISI OS

Company & Section	Address	Cable Address	Tel. No.	Telex No.
MITSUI & CO., LTD. OSAKA BRANCH 1st Provisions Sect. Foodstuff Dept.	25, Nakanoshima 2-chome, Kita-ku, Osaka (P.O. Box No. 119 Osaka Central)	MITSUI OSAKA	(06) 226-3150/6	J63277
[N]				
NICHIRYO LTD. KOBE BRANCH Food Stuff Sect.	Meikai Bldg., No. 32, Akashi-cho, Ikuta-ku, Kobe	5622792 NICRYO	(078) 331-9151	5622-792
NISSHO-IWAI CO., LTD. Osaka Foodstuffs Dept. Provisions Sect.	3-30, Imabashi, Higashi-ku, Osaka	NISSHOIWI OSAKA	(06) 202-1201	522-2611 -4927
NOMURA TRADING CO., LTD. OSAKA Agricultural & Marine Products Dept., Animal & Products Sect.	30, Bingo-machi, 2-chome, Higashi-ku, Osaka	NOMURABLDG OSAKA	(06) 262-1321	J63367
[S]				
SHINYEI KAISHA Overseas Trade Dept. Import Section II	No. 77-1, Kyomachi, Ikuta-ku, Kobe	SHINYEI KOBE	(078) 321-1121	J78821
SUMITOMO SHOJI KAISHA, LTD. Osaka Groceries in Charge Food Dept.	5-15, Kitahama, Higashi-ku, Osaka	SUMITSHOJI OSAKA	(06) 203-1221	OS-3227, 3321
[T]				
TOHO SANGYO LTD. General Material Sect.	4-25, Junkeimachi-dori, Minami-ku, Osaka	SANGYOSERV OSAKA	(06) 251-8761	522-2260
TOKYO MARUICHI SHOJI CO., LTD. KANSAI BRANCH Marine & Live Stock Products Dept.	Sannomiya Bldg., 8-1, Onoedori, Fukiai-ku, Kobe	TOKUMARU KOBE	(078) 251-1521	
TOSHOKU LTD. OSAKA BRANCH Agricultural & Marine Products Sect.	Yuraku Bldg., No. 20, 4-chome, Minamihonmachi, Higashi-ku, Osaka	TOSHOKU OSAKA	(06) 252-1301	TOSHOKU OS-3410

Company & Section	Address	Cable Address	Tel. No.	Telex No.
TOYO MENKA KAISHA, LTD. Foodstuff Dept. Foodstuff Sect.	64, Kawaramchi, 2-chome, Higashi-ku, Osaka (Central P.O. Box 61, Osaka)	TOYOMENKA OSAKA	(06) 203-1351	J-63245 J-63451 J-63287
[Y]				
YAGI TSUSHO KAISHA, LTD. Foodstuffs Dept.	20, Imabashi, 3-chome, Higashi-ku, Osaka	YAGITSUSHO OSAKA	(06) 203-1112	J63405 J63744
CHUKYO BRANCH				
[A]				
ATAKA & CO., LTD. NAGOYA BRANCH Produce Sect.	15-22, Nishiki 2-chome, Naka-ku, Nagoya	ATAKAKO NAGOYA	(052) 201-3271	442-2387
[D]				
DAIEI TAIGEN CO., LTD. NAGOYA BRANCH	5-1, Tomifune-cho, Nakagawa-ku, Nagoya		(052) 353-1286	
[K]				
KANEMATSU-GOSHO LTD., NAGOYA OFFICE Foodstuffs Dept.	Meishin Bldg., 20-19, Nishiki 1-chome, Naka-ku, Nagoya	KANEGOLD	(052) 211-1311	442-2330
KASHO CO., LTD. NAGOYA BRANCH	No. 24, 1-chome, Hijiecho, Nakamura-ku, Nagoya	GOMUKASHO NAGOYA	(052) 561-5471	442-4092
KYOKUYO CO., LTD. NAGOYA BRANCH	1-79, Chiyoda-cho, Atsuta-ku, Nagoya	KYOKUYO NAGOYA	(052) 681-7401 681-7407	446-4539
[M]				
MARUBENI CORPORATION NAGOYA OFFICE Sugar & Foodstuff Sect.	2-4, Nishiki 2-chome, Naka-ku, Nagoya	MARUBENI NAGOYA	(052) 201-5211	442-2201 2202

Company & Section	Address	Cable Address	Tel. No.	Telex No
MITSUBISHI CORPORATION NAGOYA BRANCH Foods Dept.	3-chome 88 Hiroi-cho, Nakamura-ku, Nagoya	MITSUBISHIFP	(052) 565-2738	MITSUBISHI J59922
MITSUI CO., LTD. NAGOYA BRANCH Provisions Sect. Foodstuff Dept.	Toyota Bldg., 1-221-2, Sasajima-cho, Nakamura-ku, Nagoya	MITSUI NAGOYA	(052) 584-2508	NG9920
[N]				
NISSHO-IWAI CO., LTD. NAGOYA Provisions Sect. Foodstuffs Dept.	Nissho Bldg., 5-13, 1-chome, Nishiki, Naka-ku, Nagoya	NISSHOIWAI NAGOYA	(052) 201-2161	442-2619
[S]				
SEIWA TRADING CO., LTD. Agriculture & Marine Products Sect.	23, 1-chome, Takaba-cho, Nakamura-ku, Nagoya	SEIWATRADE	(451) 31-71/80	J59939 AAB SEIWACO
[T]				
TAIYO GYOGYO KABUSHIKI KAISHA	3-37, Enishi-cho, Nishi-ku, Nagoya	OCEANFISH	(052) 563-2451	
TOKYO MARUICHI SHOJI CO., LTD.	Daini-Chukei Bldg., 1-24, Hije-cho, Nakamura-ku, Nagoya		(052) 581-8201	
TOSHOKU, LTD.	Tokai Bldg., 6th Floor, No. 30, 2-chome, Hirokojinishi-Dori, Nakamura-ku, Nagoya		(052) 581-7826/ 7628	
TOYO MENKA KAISHA, LTD. NAGOYA Nagoya Food & Produce Dept. Foodstuff Sect.	6-2, Nishiki 2-chome, Naka-ku, Nagoya (Nagoya Naka P.O. Box No. 250)	TOYOMENKA NAGOYA	(052) 201-8111	NG-9921
[Y]				
YAGI TSUSHO KAISHA, LTD.	16, 5-chome, Honmachi-Dori Ichinomiya City Aichi Prefecture	YAGITSUSHO ICHINOMIYA	(0586) 72-2125	

APPENDIX G.--VIETNAM FISH AND FISH PRODUCTS STUDIED IN JAPAN FOR POSSIBLE EXPORT POTENTIAL

	English	Scientific	Vietnamese	Japanese
		FISH		
1.	Snapper (red)	Lutjanus sp.	Ca hong	Fuedai
2.	Sea bream	Pagrus major	Ca trao	Tamagashira
		Scolopsis bimaculatus	Ca trao	Tamagashira
3.	Grouper	Epinephelus fasciatus	Ca minbong	Akahata
	Reef cod	Epinephelus merra	Ca mu Cham	Kanmon-hata
		Epinephelus akaara		Kijihata
4.	Mackerel	Scomberomons niphonius	Ca bac ma	Yaito
	Mackerel (scad)	Decapterus sp.	Ca bac ma	Saba
5.	Tuna			
	Bluefin	Thunnus orientalis	Ca thu	Kuromaguro
	Yellowfin	Neothunnus macropterus	Ca thu	Koshinaga
6.	Lizzard fish	Saurida sp.	Ca moi	Amaeso, Wnieso, Kieso
7.	Threadfin	Polynemus sp.	Ca goc	Tsubamekonoshico
8.	Hairtail (Ribbon fish)	Trichiurus lepturus	Ca ho	Tachiuwo
9.	Hairtail	Caranx	Ca be	
10.	Snake head	Ophicephalus	Ca loc bong	Raigyo
11.	Catfish	Pangasius	Ca tra vo	Namazu
12.	Rice field eel	Fluta alba	Con luon dong	Taunagi
13.	Milkfish	Chanos chanos	Ca mang	Sabahi
14.	Aquarium fish	Gobies, gambusie, etc.	Ca canh	Haze
15.	Blowfish (Porcupine)	Diodon	Ca noc	Fugu
16.	Manta ray	Dasyatis	Ca duoi	Karei
17.	Herring (Big eye)	Harengula zumashi Clupea	Ca moi	Nishin
18.	Anchovy	Coilia	Ca com	Etsu or Katakuchi iwashi

	English	Scientific	Vietnamese	Japanese
19.	Toothed eel	Muraenesox cinereus	Ca lac	Hamo
20.	Sardine	Sardinella	Ca frich	Iwashi
		SHELL AND CRAYFISH		
21.	Prawn-shrimp	Panaeus Metapenaeus Panacopsis	Tom Tom Tom	Kuruma-ebi Kuruma-ebi Kuruma-ebi
22.	Spotted shrimp	Sergestes	Tom	Kuruma-ebi
23.	Pink prawn	Pandalus Crangon	Tom Tom	Kuruma-ebi Kuruma-ebi
24.	Lobster (Spiny) Lobster (Spring tail)	Panulirus fasciatus Gonodactylus	Tom hum Tom tit	Ise-ebi
25.	Mysid	Neomysis japonica	Tep	
		MUSSELS AND CLAMS		
26.	Sea mussels	Mytilus crassitesta	Ngheu bian	Igai
27.	Bay mussels	Mytilus edulis	Ngheu bian	Igai
28.	White clam	Meretrix meretrix	Con nagao	Kai
29.	Arc shell clam	Ahadara sp.		Aka gai
30.	Mangrove clam			Mangrove kani
		MOLLUSCS AND JELLYFISH		
31.	Squid	Thysanateuthis rhombus	Muc	Yari-ika
32.	Cuttlefish	Sepia esculenta	Muc	Mongou-ika
33.	Jellyfish		Sua	Kurage

English	Scientific	Vietnamese	Japanese
		OTHER PRODUCTS	
34. Shrimp paste		Ruoc	Ebi-no-soosu
35. Dried fish		Ca kho	Himono
36. Fish sauce		Nuoc mam	Sakana-no-soosu
37. Dried shrimp		Tom kho	Hoshi-ebi
38. Shrimp cake		Banh hong tom	

APPENDIX H: GENERAL OBSERVATIONS RELATIVE TO JAPAN'S HEALTH STANDARDS FOR IMPORTED FISH PRODUCTS

The detailed health and sanitation standards for imported fish and fish products in Japan are basically those for all food products for human consumption as enforced by the Japanese Ministry of Health and Welfare. These are codified in much the same form as in the United States Public Health Service Code. A condensed version of the Japanese code is available in the Japanese language. The publication is entitled "Food Sanitation Regulations," and may be obtained from either the Japanese Food Sanitation Association or the Food Sanitation Division, Japan Ministry of Health and Welfare, Kasumigaseki, Chiyoda-Ku, Tokyo.1/

There are special regulations which must be met for the following five fishery products: (1) fish paste, (2) salmon roe, (3) boiled octopus, (4) fresh oysters, and (5) pre-processed fish fillets. Details on the regulations may be obtained from the Food Sanitation Division. Other fish products fall under the general provisions for all foods.

The standards are quite specific and are rigidly enforced. Consequently, any firm desiring to export to Japan should be thoroughly familiar with the standards for the fish products of interest to them, and must process, package, and handle products to conform to the standards. A knowledge of standards for similar products in the United States, Europe or other countries will not suffice, since many of Japan's standards are different. Three examples will suffice.

1. Similar to the United States and European standards, Japan will not permit importation of food products containing evidence of the presence of E. Coli or Salmonella.

2. A raw bacteria count standard, specified in many countries, is only slightly different in Japan; maximum count allowable is 100,000 per gram.

3. Unlike the United States and many other countries, Japan has rigid standards for the presence of sulphites in imported foods.2/ These and other details should be studied carefully by firms interested in processing for possible sale to the Japanese market.

1/ Mr. Akihiro Ueki, Food Sanitation Division, was most helpful to the Vietnamese-American team while it was in Japan.

2/ The revised standard allows a maximum of 100 parts per million.